LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

DATE: 15 Sept. 1967

TYPE (MIL–STD–150A): Type I Aerial Reconnaissance

NAME: Raptar Wide Angle

FOCAL LENGTH: 3.5 in.

RELATIVE APERTURE: f/6.8

FORMAT: 4 in. x 5 in.

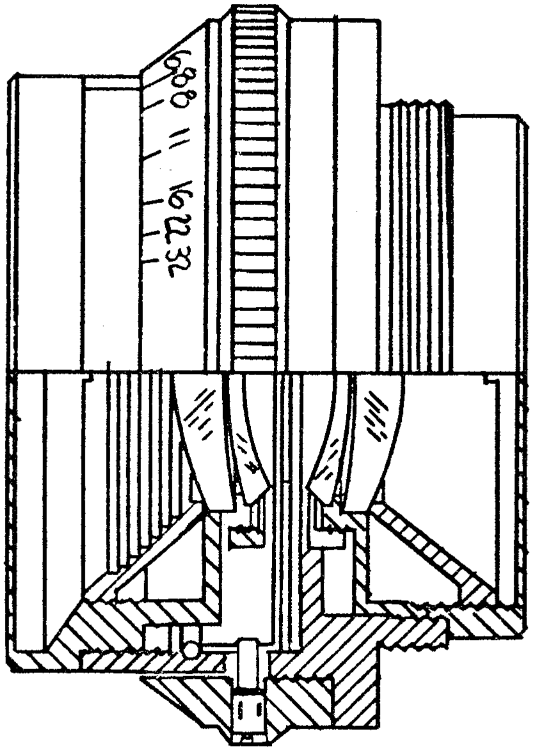
MANUFACTURER: 3M-Wollensak

STOCK NO.: Wollensak
P/N 557

SPECIFICATION NO.:

STATUS:

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 3.64 in. (92.5 mm)

TRANSMITTANCE:

BACK FOCAL DISTANCE: 3.35 in. (85.28 mm)

COLOR CORRECTION:

FRONT VERTEX BACK FOCAL DISTANCE:

DISTORTION *(Maximum)*:

FLANGE FOCAL DISTANCE: 3.472 in.

LENS CELL DIAMETER *(Maximum)*: 1.594 in.

SEMI–FIELD ANGLE: 40°

OVERALL LENGTH: 1.105 in.

RELATIVE APERTURE: f/6.8

WEIGHT:

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
3.5 in.	f/6.8	4 in. x 5 in.	3M-Wollensak

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40									

FILM Plus X TARGET CONTRAST High FILTER

RADIAL	52	46	37	18	15	12	13	15	20									
TANGENTIAL	52	46	36	27	20	17	14	14	8									

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

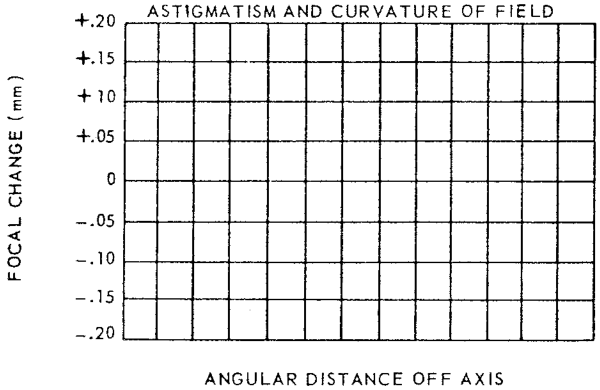
RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

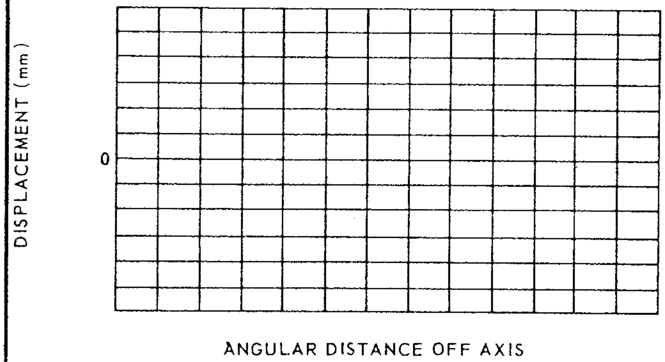
VISUAL ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

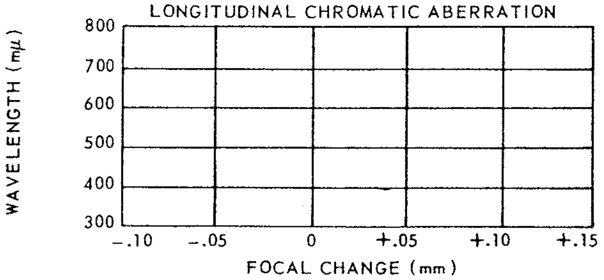
ASTIGMATISM AND CURVATURE OF FIELD



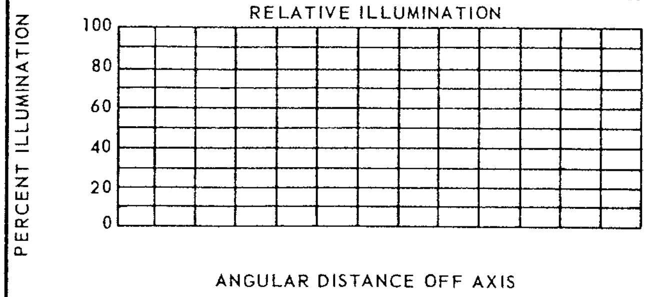
DISTORTION



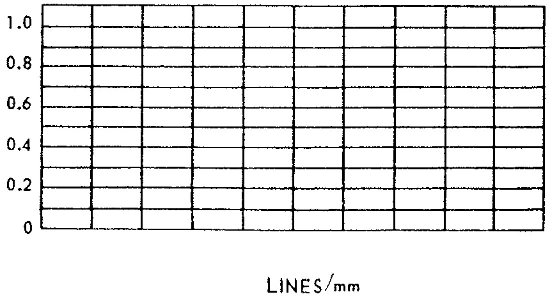
LONGITUDINAL CHROMATIC ABERRATION



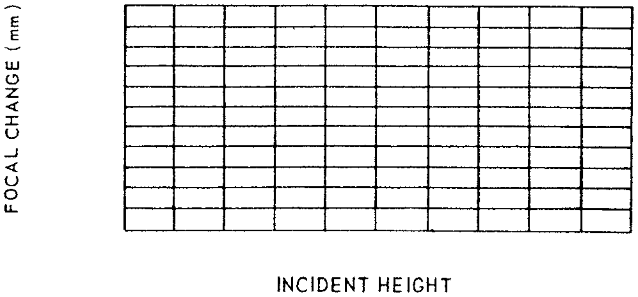
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



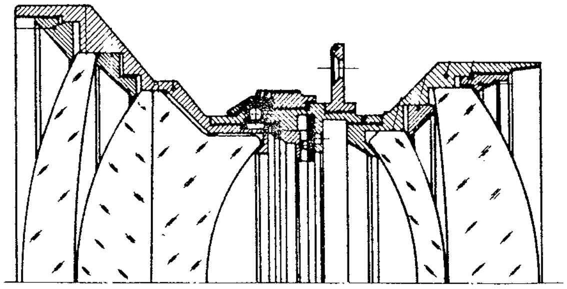
LENS DATA INFORMATION SHEET *(Reference MIL-STD-150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Xenotar

FOCAL LENGTH 6 in.	RELATIVE APERTURE f/2.8	FORMAT 4 in. x 5 in. (90 mm x 120 mm)	MANUFACTURER Jos. Schneider & Co.

STOCK NO. Schneider P/N XNT 28150 - 002a	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (149.5 mm)	TRANSMITTANCE 3660 4050 4360 5440 6730 Å 53 72 81 93 82 %
BACK FOCAL DISTANCE 4.2 in. (108.0 mm)	COLOR CORRECTION 4360-6440Å
FRONT VERTEX BACK FOCAL DISTANCE 7.2 in. (184.2 mm)	DISTORTION *(Maximum)* -0.76%
FLANGE FOCAL DISTANCE 5.5 in. (139.0 mm)	LENS CELL DIAMETER *(Maximum)* 3 in. (80.0 mm)
SEMI-FIELD ANGLE 26.5°	OVERALL LENGTH 3 in. (76.7 mm)
RELATIVE APERTURE f/2.8	WEIGHT 1.74 lbs (780 g)

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/2.8	4 in. x 5 in. (90 mm x 120 mm)	Jos. Schneider & Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	4	8	12	16	20	24	28									

FILM Pan (175 Lin/mm) TARGET CONTRAST High FILTER ____

RADIAL	72	67	59	44	32	33	45	33										
TANGENTIAL	72	67	59	52	44	45	40	36										

AWAR ____ L/mm

FILM ____ TARGET CONTRAST ____ FILTER ____

RADIAL																		
TANGENTIAL																		

AWAR ____ L/mm

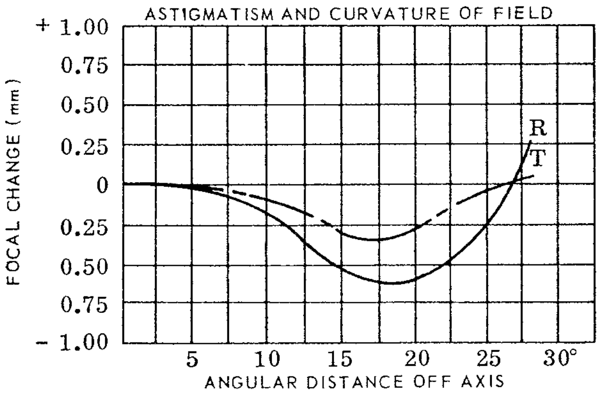
FILM ____ TARGET CONTRAST ____ FILTER ____

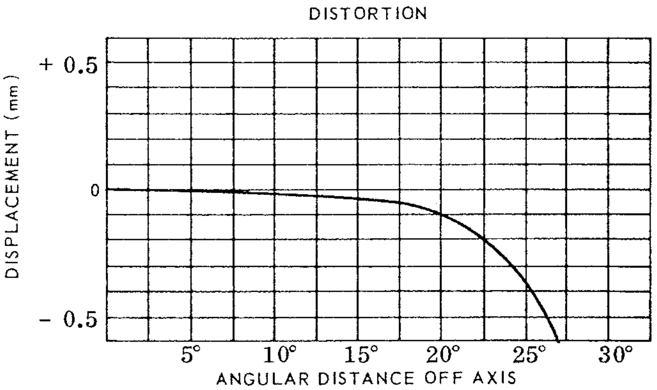
RADIAL																		
TANGENTIAL																		

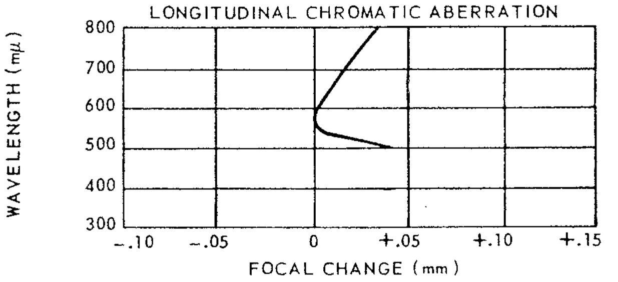
AWAR ____ L/mm

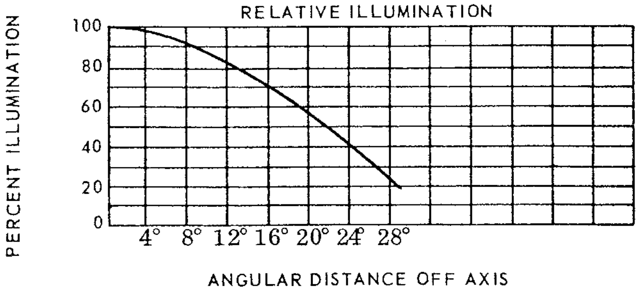
VISUAL ____ TARGET CONTRAST ____ FILTER ____

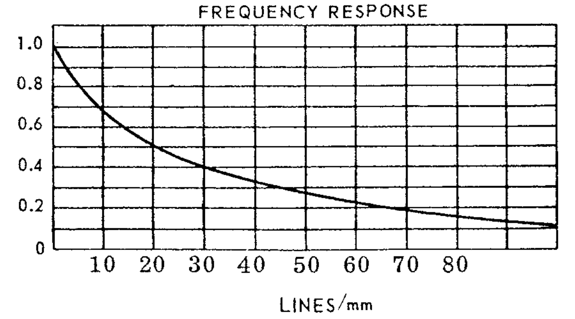
RADIAL																		
TANGENTIAL																		

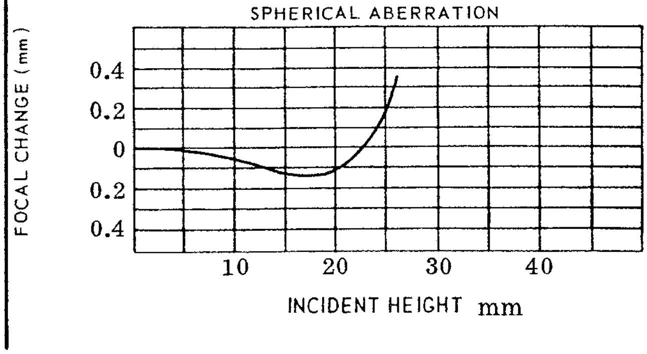

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

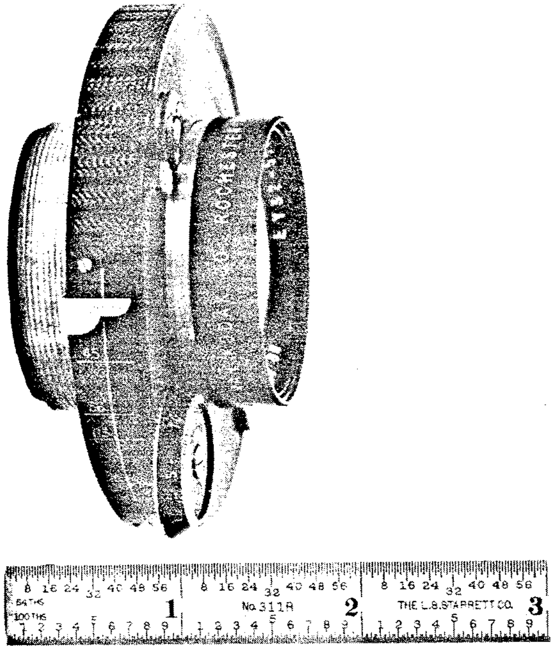
DATE: 15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Kodak Anastigmat

FOCAL LENGTH 6.375 in.	RELATIVE APERTURE f/4.5	FORMAT 4 in. x 5 in.	MANUFACTURER Eastman Kodak Co.

STOCK NO.	SPECIFICATION NO.	STATUS Special Order

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6.375 in. (161.20 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 5.74 in. (145.80 mm)	COLOR CORRECTION Visible
FRONT VERTEX BACK FOCAL DISTANCE 7.4 in. ± .125 in.	DISTORTION *(Maximum)* 1.0 mm
FLANGE FOCAL DISTANCE 5.86 in. ± .125 in.	LENS CELL DIAMETER *(Maximum)* 1.654 in.
SEMI-FIELD ANGLE 25°	OVERALL LENGTH 1.656 in.
RELATIVE APERTURE f/4.5	WEIGHT 3 lbs

REMARKS:

Used on the following aircraft cameras: K-20, K-25, CA-6, PH-691/u, CA-7A, KA-7(1)

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6.375 in.	f/4.5	4 in. x 5 in.	Eastman Kodak Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25												

FILM Super XX TARGET CONTRAST High FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	30	30	25	20	15	10												

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

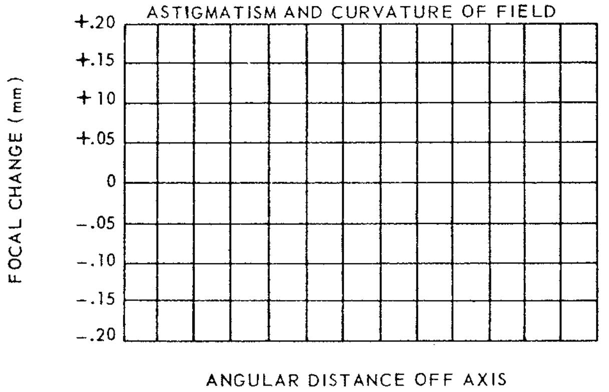
FILM ______ TARGET CONTRAST ______ FILTER ______

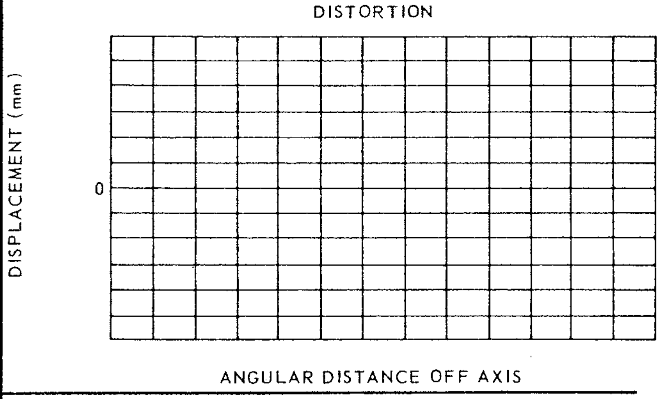
RADIAL																		
TANGENTIAL																		

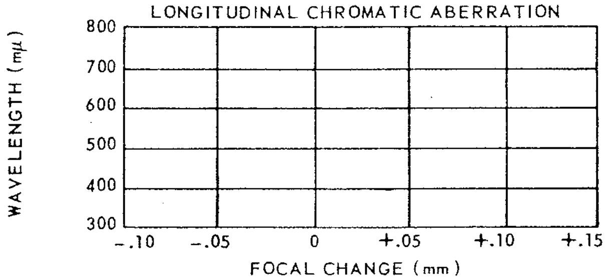
AWAR ______ L/mm

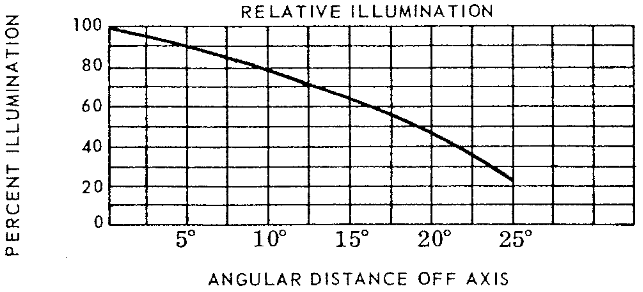
VISUAL ______ TARGET CONTRAST ______ FILTER ______

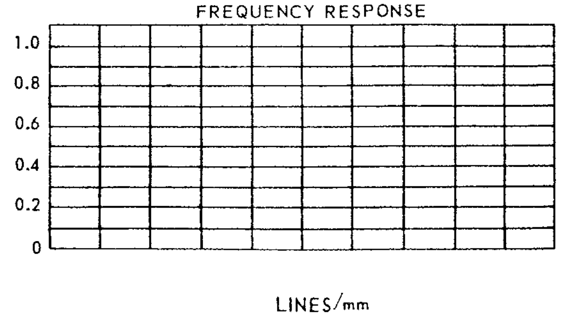
RADIAL																		
TANGENTIAL																		

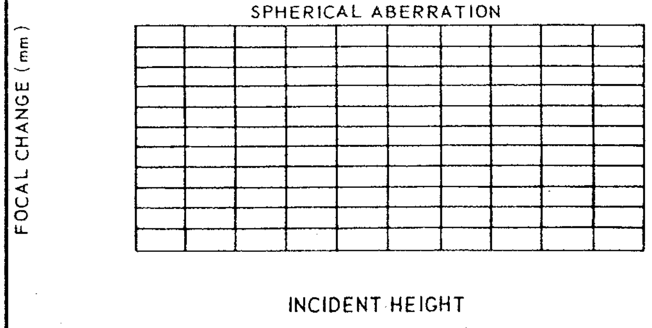












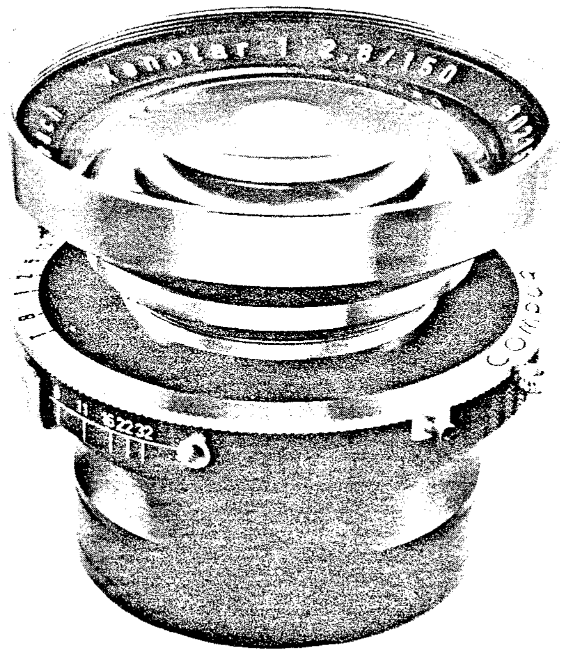
LENS DATA INFORMATION SHEET *(Reference MIL-STD-150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

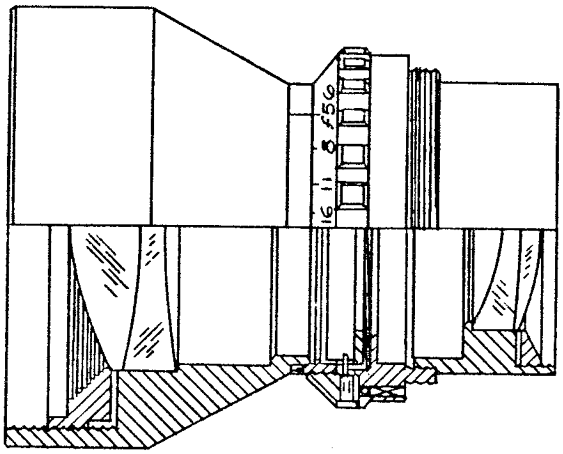
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Raptar Telephoto (Pro-70)

FOCAL LENGTH 10 in.	RELATIVE APERTURE f/5.6	FORMAT 4 in. x 5 in.	MANUFACTURER 3M-Wollensak

STOCK NO. Wollensak P/N 519	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 10 in. (252.6 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 5.81 in. (129.06 mm)	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 5.950 in.	LENS CELL DIAMETER *(Maximum)* 2.860 in.
SEMI-FIELD ANGLE 14°	OVERALL LENGTH 3.494 in.
RELATIVE APERTURE f/5.6	WEIGHT

REMARKS:

Used on following aircraft cameras: 110 (Mast)

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
10 in.	f/5.6	4 in. x 5 in.	3M-Wollensak

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	13														

FILM Plus X TARGET CONTRAST High FILTER ______

RADIAL	41	41	40	31														
TANGENTIAL	36	36	16	19														

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

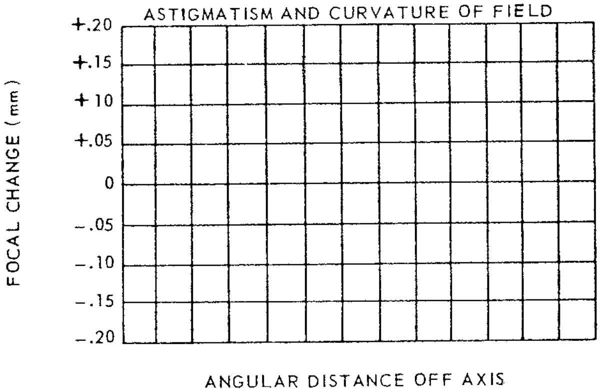
FILM ______ TARGET CONTRAST ______ FILTER ______

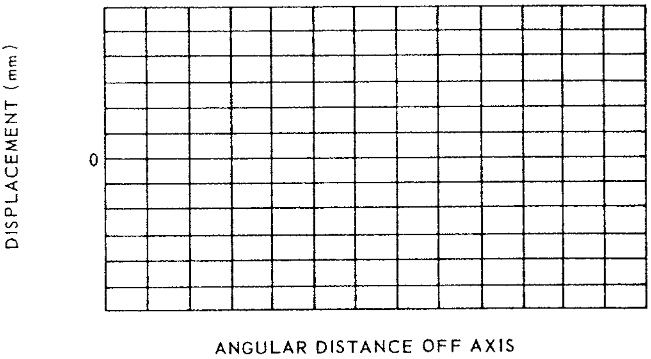
RADIAL																		
TANGENTIAL																		

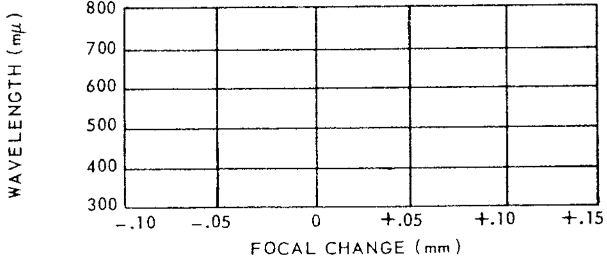
AWAR ______ L/mm

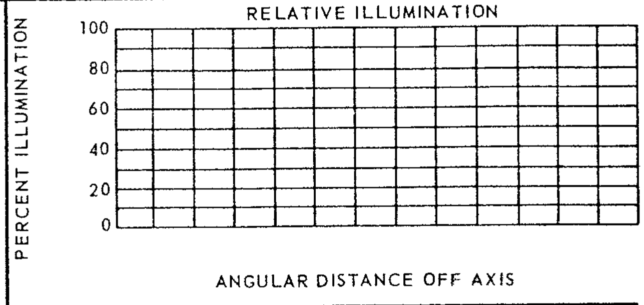
VISUAL ______ TARGET CONTRAST ______ FILTER ______

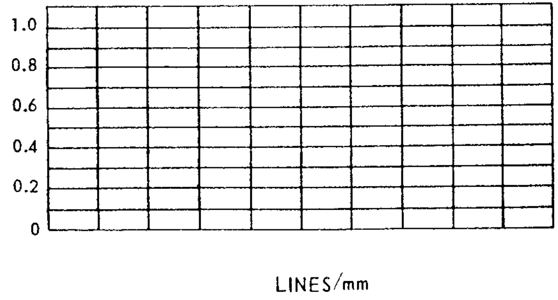
RADIAL																		
TANGENTIAL																		

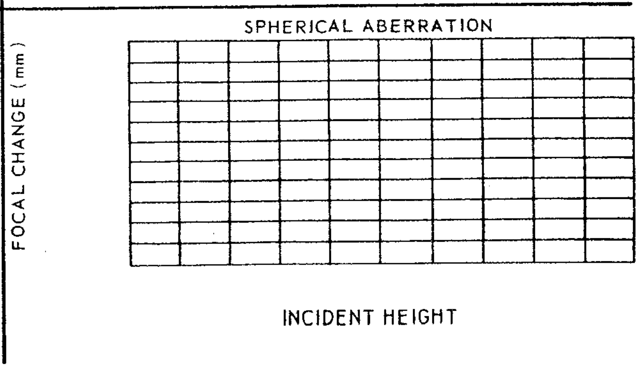

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

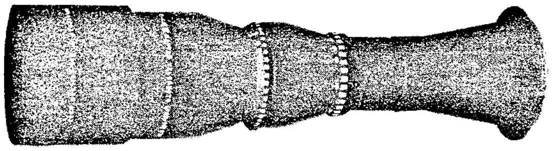
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

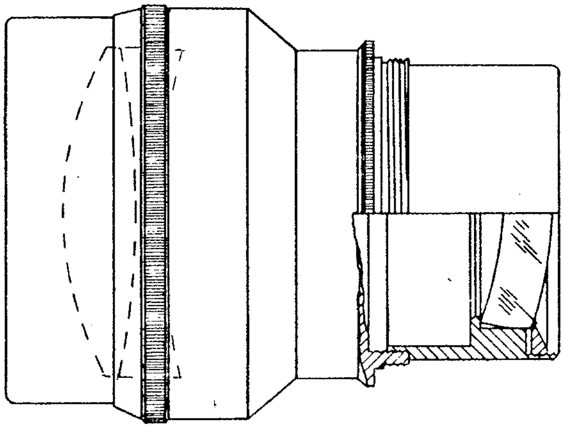
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Raptar Telephoto (Pro-70)

FOCAL LENGTH 15 in.	RELATIVE APERTURE f/5.6	FORMAT 4 in. x 5 in.	MANUFACTURER 3M-Wollensak

STOCK NO. Wollensak P/N 524	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 15 in. (390.0 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 7.79 in. (197.99 mm)	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 20.72 in. (526.37 mm)	LENS CELL DIAMETER *(Maximum)* 3.5625 in.
SEMI-FIELD ANGLE 6°	OVERALL LENGTH 4.594 in.
RELATIVE APERTURE f/5.6	WEIGHT

REMARKS:

Used on following aircraft cameras: CA-6a, CA-7c
(Also suitable for 5 in. x 7 in. format)

FOCAL LENGTH 15 in.	RELATIVE APERTURE f/5.6	FORMAT 4 in. x 5 in.	MANUFACTURER 3M-Wollensak

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	2.5	6															

FILM Microfile TARGET CONTRAST High FILTER

RADIAL	96	96	76															
TANGENTIAL	96	61	30															

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

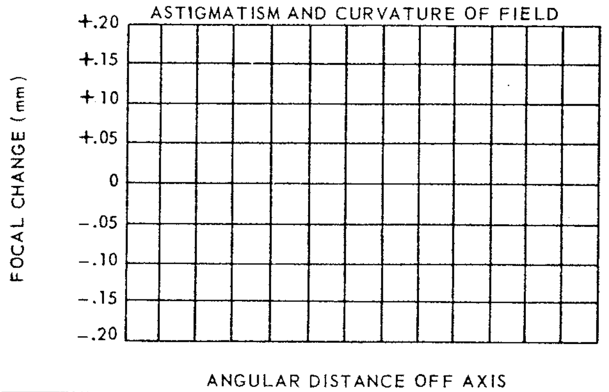
FILM ______ TARGET CONTRAST ______ FILTER ______

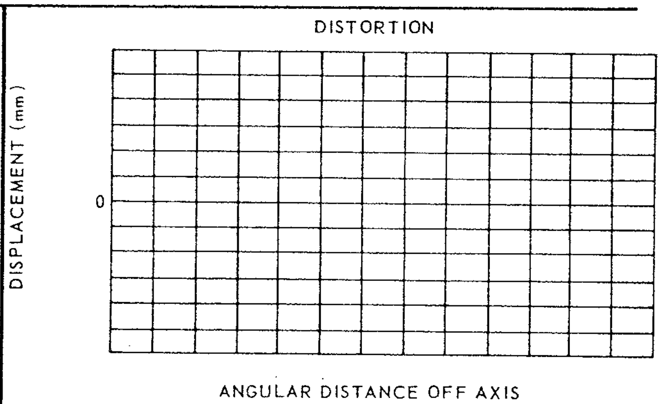
RADIAL																		
TANGENTIAL																		

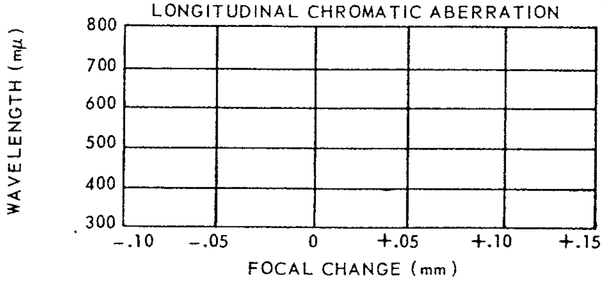
AWAR ______ L/mm

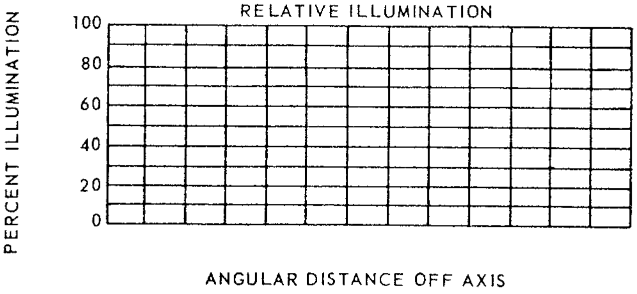
VISUAL ______ TARGET CONTRAST ______ FILTER ______

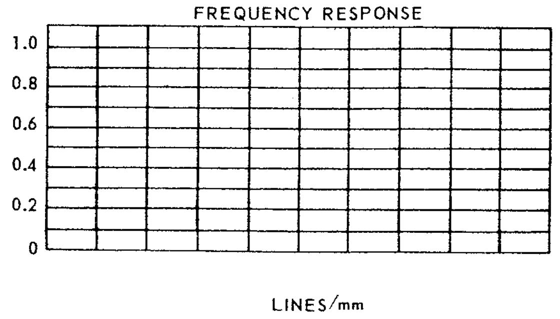
RADIAL																		
TANGENTIAL																		

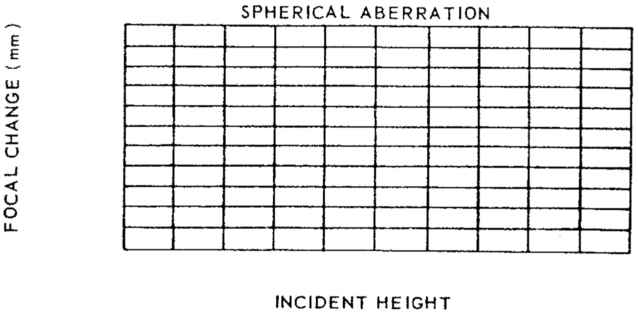








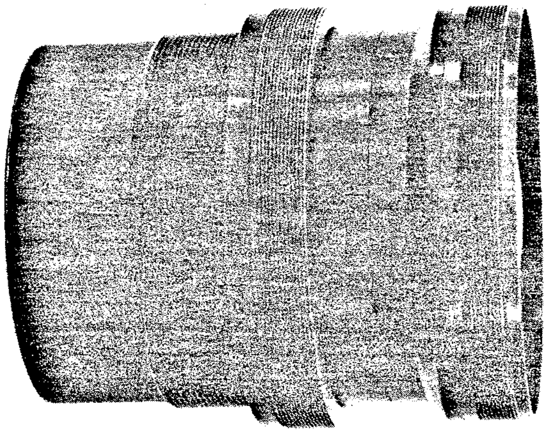




LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL–STD–150A) Type I Aerial Reconnaissance		NAME Kodak Aero-Ektar	
FOCAL LENGTH 7 in.	RELATIVE APERTURE f/2. 5	FORMAT 5 in. x 5 in.	MANUFACTURER Eastman Kodak Co.
STOCK NO. Eastman Kodak P/N 30100	SPECIFICATION NO.	STATUS Special Order	

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 7 in. (179. 80 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 4. 85 in. (123. 13 mm)	COLOR CORRECTION Visible
FRONT VERTEX BACK FOCAL DISTANCE 8. 54 in. (216. 96 mm)	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 5. 79 in.	LENS CELL DIAMETER *(Maximum)* 4. 769 in.
SEMI–FIELD ANGLE 27. 5°	OVERALL LENGTH 4. 250 in.
RELATIVE APERTURE f/2. 5	WEIGHT

REMARKS:

Used on the following aircraft cameras: K-24

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
7 in.	f/2.5	5 in. x 5 in.	Eastman Kodak Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25											

FILM Super XX TARGET CONTRAST High FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	25	20	15	12	12	10											

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																	
TANGENTIAL																	

AWAR ______ L/mm

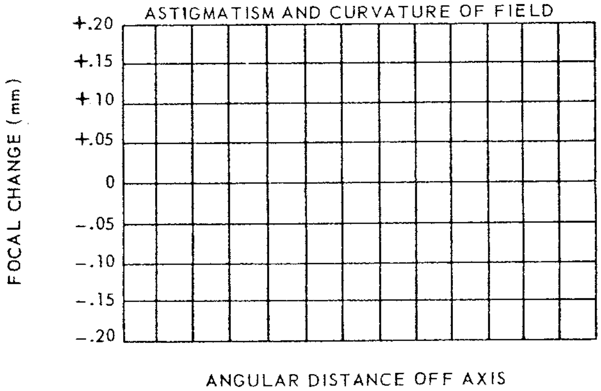
FILM ______ TARGET CONTRAST ______ FILTER ______

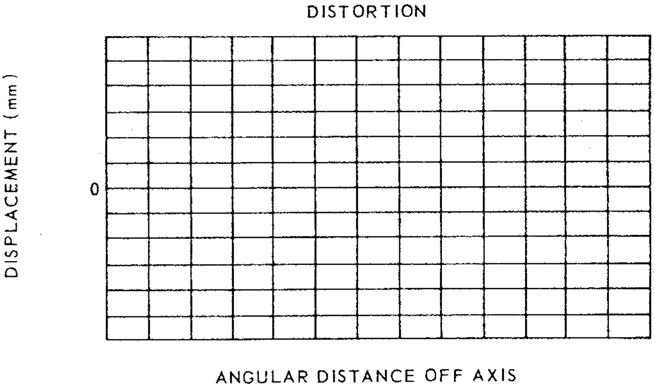
RADIAL																	
TANGENTIAL																	

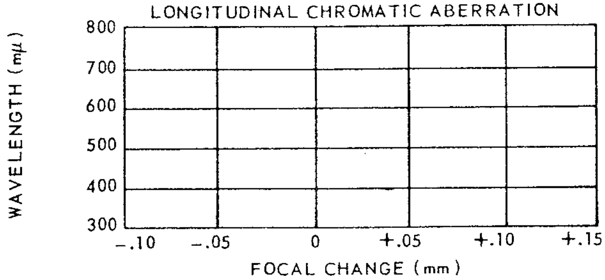
AWAR ______ L/mm

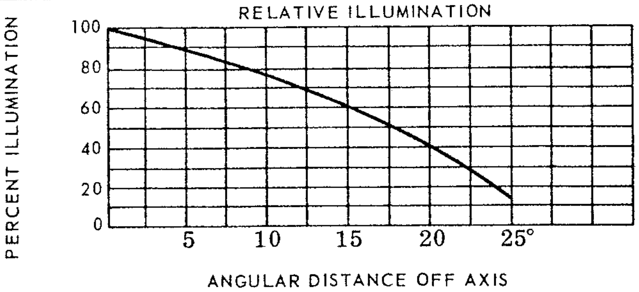
VISUAL ______ TARGET CONTRAST ______ FILTER ______

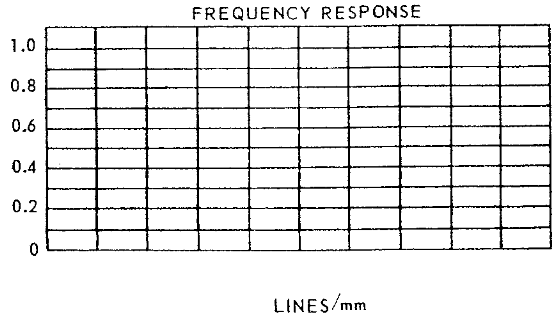
RADIAL																	
TANGENTIAL																	

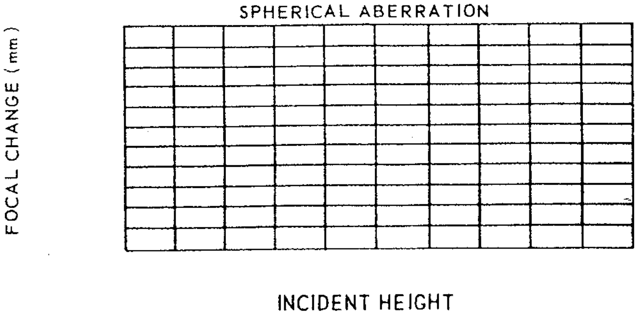










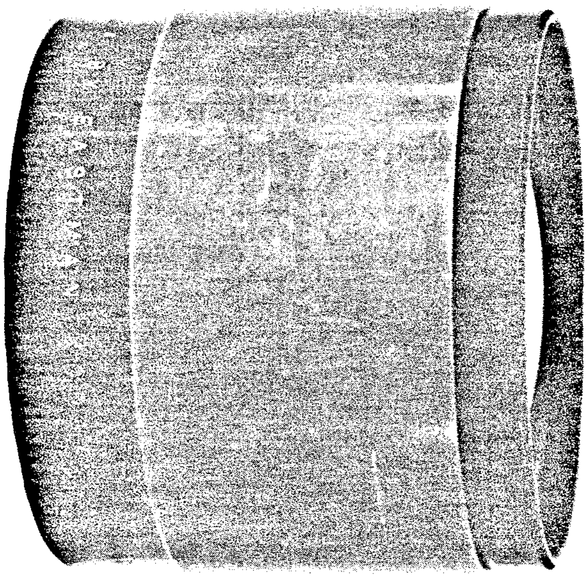


LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

DATE	15 Sept. 1967
TYPE (MIL-STD-150A)	Type I Aerial Reconnaissance
NAME	Kodak Anastigmat
FOCAL LENGTH	12 in.
RELATIVE APERTURE	f/5.0
FORMAT	5 in. x 5 in.
MANUFACTURER	Eastman Kodak Co.
STOCK NO.	Eastman Kodak P/N 29910
SPECIFICATION NO.	
STATUS	Special Order

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 12 in. (306.02 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 10.8 in. (274.27 mm)	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 13.5 in. (342.47 mm)	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 11.08 in. (281.38 mm)	LENS CELL DIAMETER *(Maximum)* 3.34 in. (85.00 mm)
SEMI-FIELD ANGLE 16° 25'	OVERALL LENGTH 2.83 in. (72.00 mm)
RELATIVE APERTURE f/5.0	WEIGHT

REMARKS:

Used on the following aircraft cameras: K-24

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
12 in.	f/5.0	5 in. x 5 in.	Eastman Kodak Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	16.5													

FILM Super XX TARGET CONTRAST High FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	18	16	15.5	15	15													

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

AVERAGE RADIAL AND TANGENTIAL																		

AWAR ______ L/mm

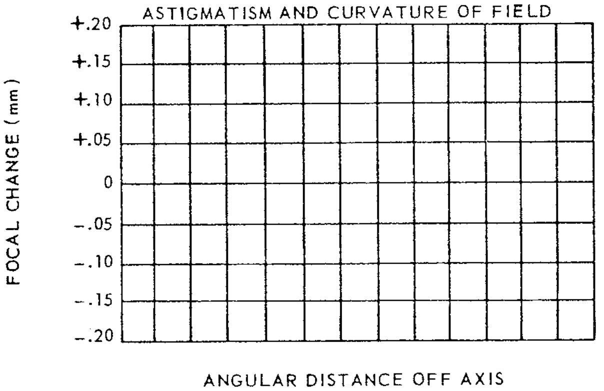
FILM ______ TARGET CONTRAST ______ FILTER ______

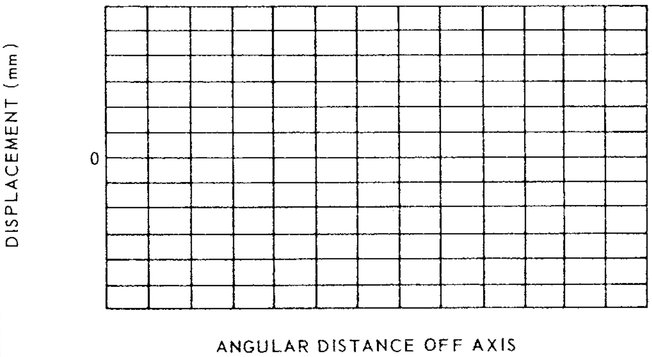
AVERAGE RADIAL AND TANGENTIAL																		

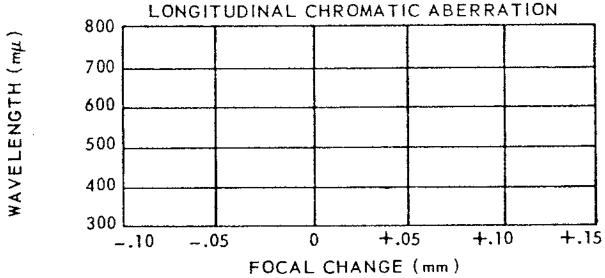
AWAR ______ L/mm

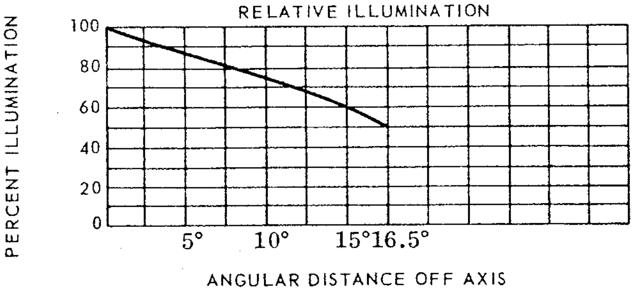
VISUAL ______ TARGET CONTRAST ______ FILTER ______

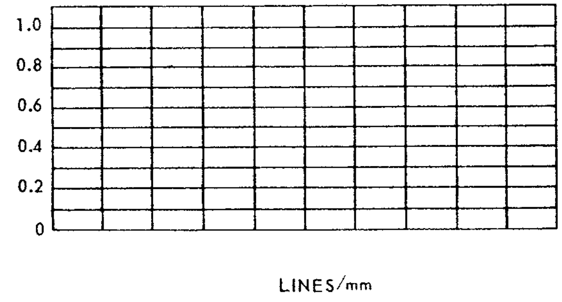
RADIAL																		
TANGENTIAL																		

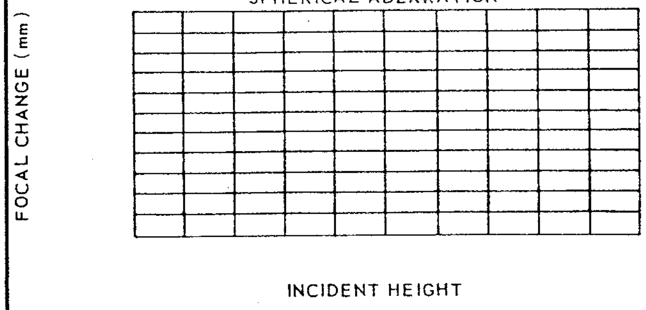

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

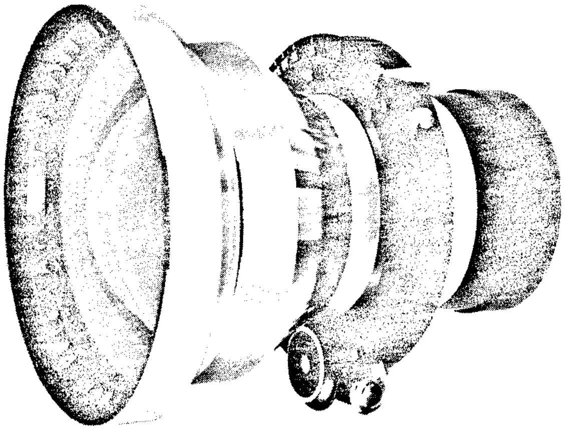
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

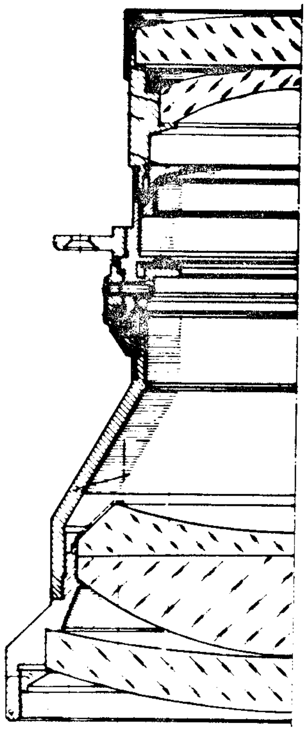
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Tele-Arton

FOCAL LENGTH 14 in.	RELATIVE APERTURE f/5.5	FORMAT 5 in. x 7 in. (130 mm x 180 mm)	MANUFACTURER Jos. Schneider & Co.

STOCK NO. Schneider P/N TAR 55360 - 0002	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 14 in. (353 mm)	TRANSMITTANCE 3660 4050 4360 5440 6730 Å 33 69 76 86 82 %
BACK FOCAL DISTANCE 6.61 in. (168 mm)	COLOR CORRECTION 4360-6440Å
FRONT VERTEX BACK FOCAL DISTANCE 11.4 in. (291 mm)	DISTORTION *(Maximum)* +1.1%
FLANGE FOCAL DISTANCE 8.2 in. (209 mm)	LENS CELL DIAMETER *(Maximum)* 4 in. (100 mm)
SEMI-FIELD ANGLE 17 1/2°	OVERALL LENGTH 5 in. (124 mm)
RELATIVE APERTURE f/5.5	WEIGHT 2 lbs (910 g)

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
14 in.	f/5.5	5 in. x 7 in. (130 mm x 180 mm)	Jos. Schneider & Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	2	4	6	8	10	12	14	16									

FILM Pan (175 Lin/mm) TARGET CONTRAST High FILTER

RADIAL	45	36	36	31	31	31	31	36	33									
TANGENTIAL	45	36	29	25	20	19	22	27	19									

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

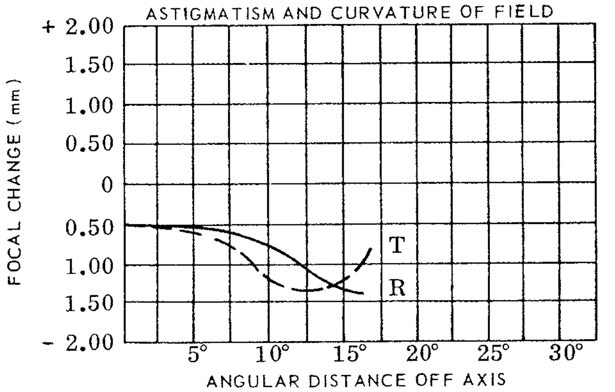
FILM ______ TARGET CONTRAST ______ FILTER ______

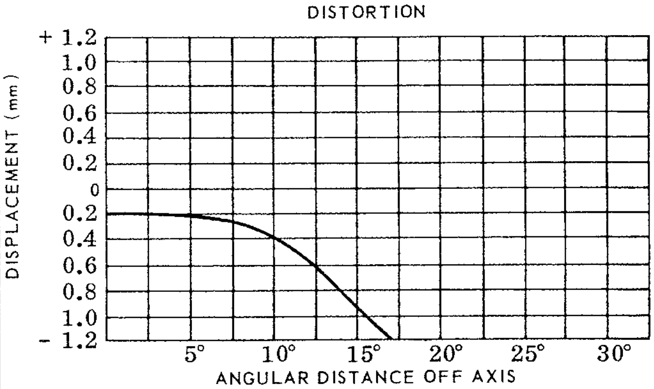
RADIAL																		
TANGENTIAL																		

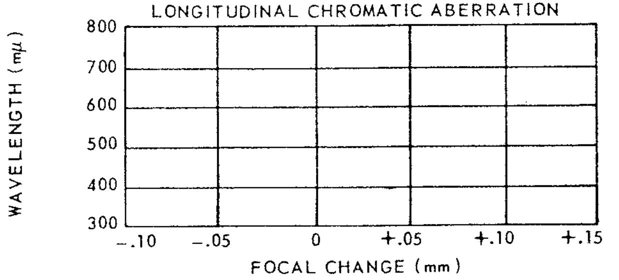
AWAR ______ L/mm

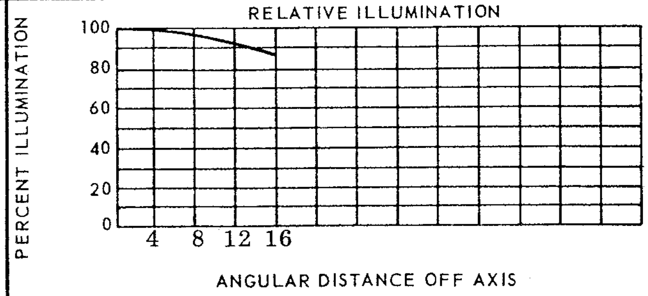
VISUAL ______ TARGET CONTRAST ______ FILTER ______

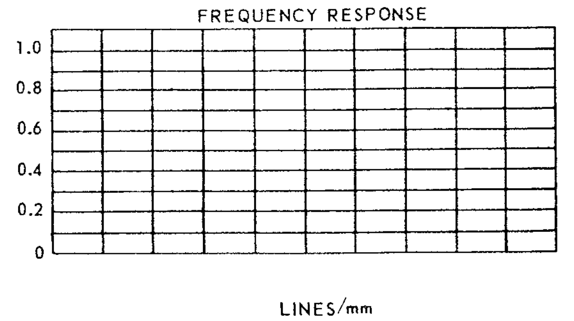
RADIAL																		
TANGENTIAL																		

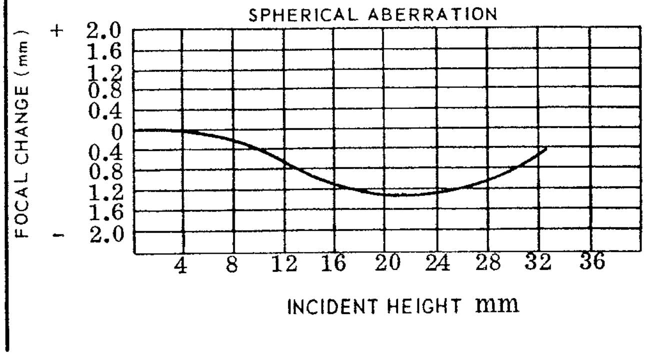

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

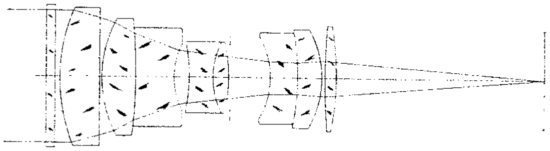
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL–STD–150A) Type I Aerial Reconnaissance	NAME Semi-Apochromatic Refractor

FOCAL LENGTH 20. 2 in.	RELATIVE APERTURE f/3. 5	FORMAT 5. 32 in. Diameter	MANUFACTURER American Optical Co.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 20. 2 in. (513. 08 mm)	TRANSMITTANCE 80%
BACK FOCAL DISTANCE 9. 995 in.	COLOR CORRECTION 4861-6563Å
FRONT VERTEX BACK FOCAL DISTANCE 24. 75 in.	DISTORTION *(Maximum)* 0. 004%
FLANGE FOCAL DISTANCE	LENS CELL DIAMETER *(Maximum)* 7. 5 in.
SEMI–FIELD ANGLE 7. 5°	OVERALL LENGTH 15. 0 in.
RELATIVE APERTURE f/3. 5	WEIGHT

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
20.2 in.	f/3.5	5.32 in. Diameter	American Optical Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL

TANGENTIAL

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL

TANGENTIAL

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL

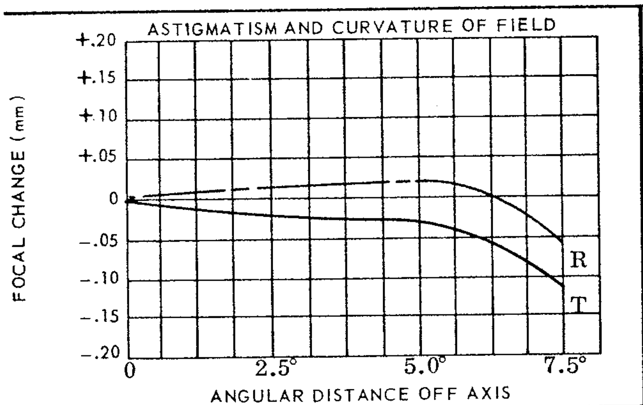
TANGENTIAL

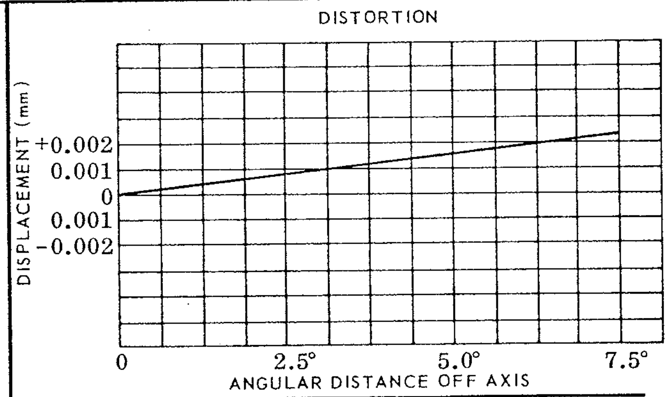
AWAR ______ L/mm

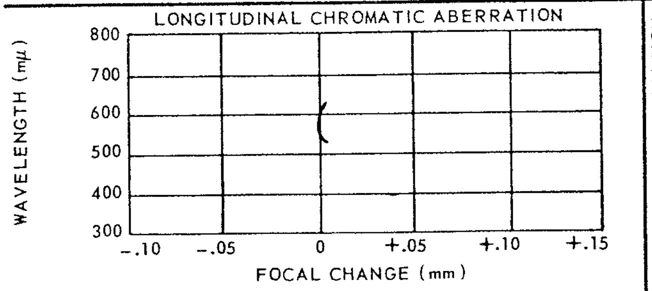
VISUAL ______ TARGET CONTRAST ______ FILTER ______

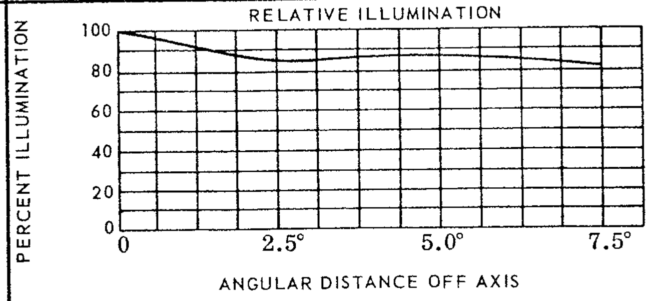
RADIAL

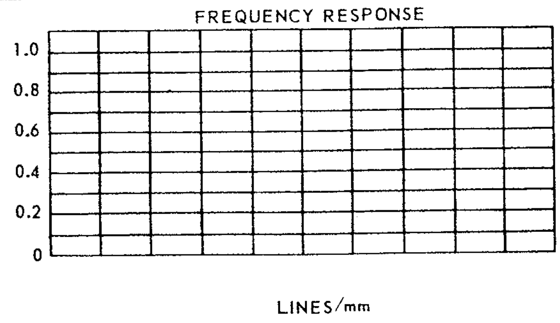
TANGENTIAL

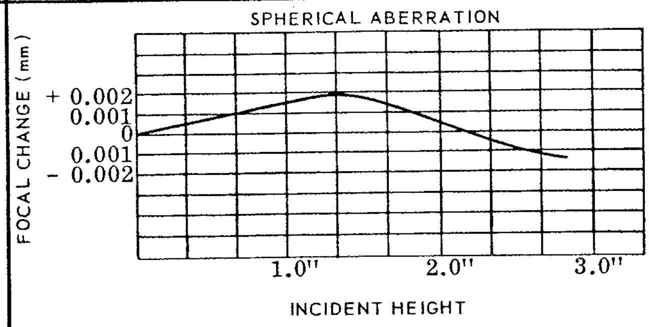

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

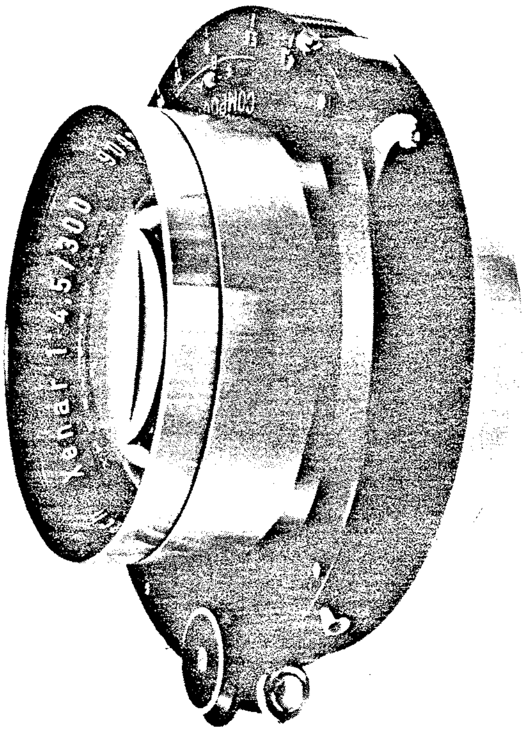
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

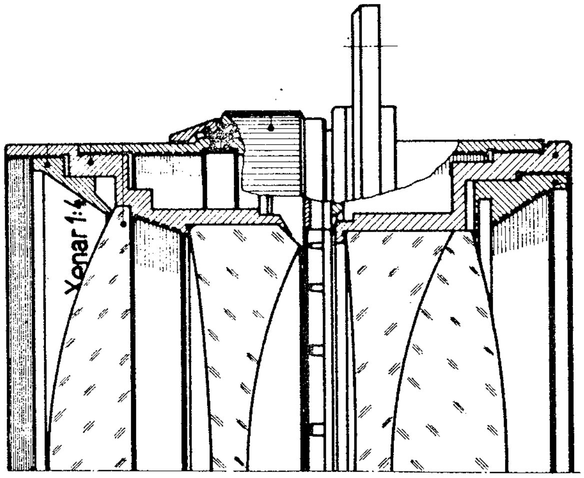
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Xenar

FOCAL LENGTH 12 in.	RELATIVE APERTURE f/4.5	FORMAT 7 in. x 10 in. (180 mm X 240 mm)	MANUFACTURER Jos. Schneider & Co.

STOCK NO. Schneider P/N XR 45300 - 007	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 12 in. (303 mm)	TRANSMITTANCE 3660 4050 4360 5440 6730 Å 58 80 85 91 88 %
BACK FOCAL DISTANCE 10.6 in. (269 mm)	COLOR CORRECTION 4360-6440Å
FRONT VERTEX BACK FOCAL DISTANCE 13.1 in. (333 mm)	DISTORTION *(Maximum)* -0.1%
FLANGE FOCAL DISTANCE 11.4 in. (289 mm)	LENS CELL DIAMETER *(Maximum)* 4 in. (94 mm)
SEMI–FIELD ANGLE 26 1/4°	OVERALL LENGTH 3 in. (73 mm)
RELATIVE APERTURE f/4.5	WEIGHT 2.7 lbs (1045 g)

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
12 in.	f/4.5	7 in. x 10 in. (180 mm x 240 mm)	Jos. Schneider & Co.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	4	8	12	16	20	24											

FILM Pan (175 Lin/mm) TARGET CONTRAST High FILTER ____

RADIAL	59	50	45	36	31	30	22											
TANGENTIAL	59	50	40	30	25	20	19											

AWAR ____ L/mm

FILM ____ TARGET CONTRAST ____ FILTER ____

RADIAL																		
TANGENTIAL																		

AWAR ____ L/mm

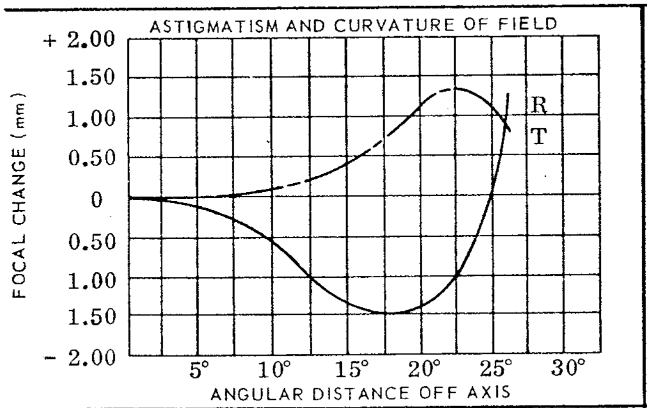
FILM ____ TARGET CONTRAST ____ FILTER ____

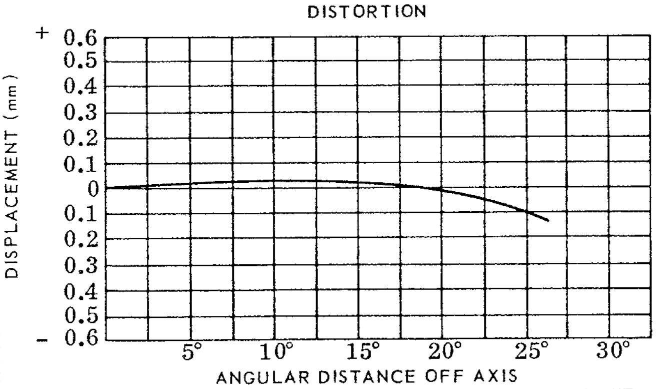
RADIAL																		
TANGENTIAL																		

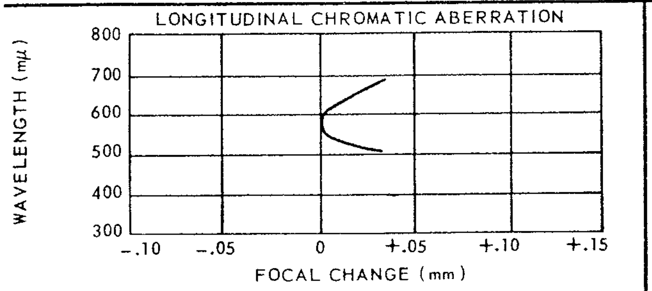
AWAR ____ L/mm

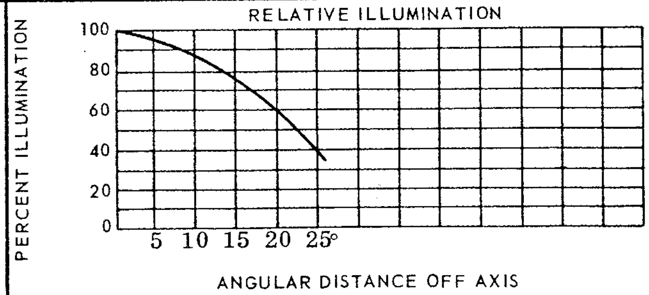
VISUAL ____ TARGET CONTRAST ____ FILTER ____

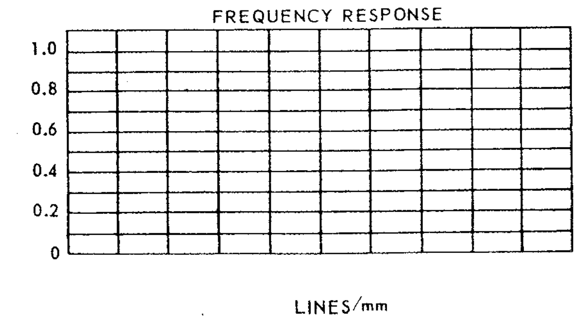
RADIAL																		
TANGENTIAL																		

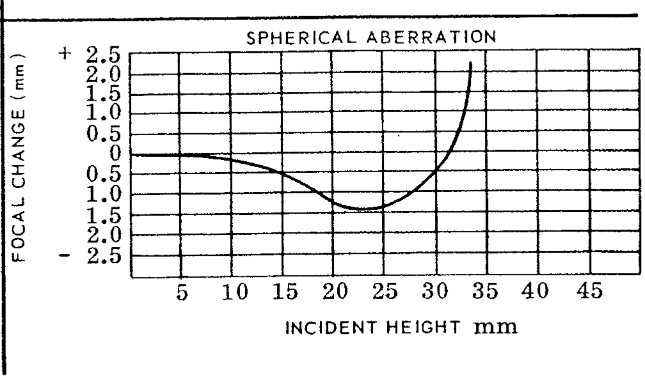

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

DATE
15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Metrogon

FOCAL LENGTH 6 in.	RELATIVE APERTURE f/6.3	FORMAT 9 in. x 9 in.	MANUFACTURER Fairchild (Curtis)

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION

CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (152.1 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 4.717 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 6.821 in.	DISTORTION *(Maximum)* ± 0.28 mm
FLANGE FOCAL DISTANCE 5.211 in.	LENS CELL DIAMETER *(Maximum)*
SEMI-FIELD ANGLE	OVERALL LENGTH
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Fairchild (Curtis)

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	10	20	30	35	40	45											

FILM Super X TARGET CONTRAST High FILTER

AVERAGE RADIAL AND TANGENTIAL	29	26	23	23	21	18	15											

AWAR 24 L/mm

FILM TARGET CONTRAST FILTER

RADIAL																		
TANGENTIAL																		

AWAR L/mm

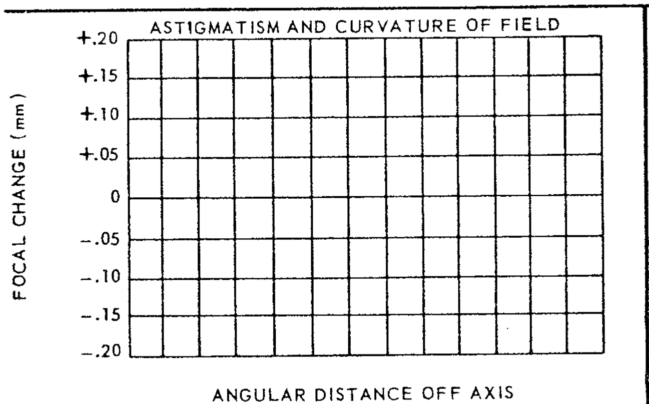
FILM TARGET CONTRAST FILTER

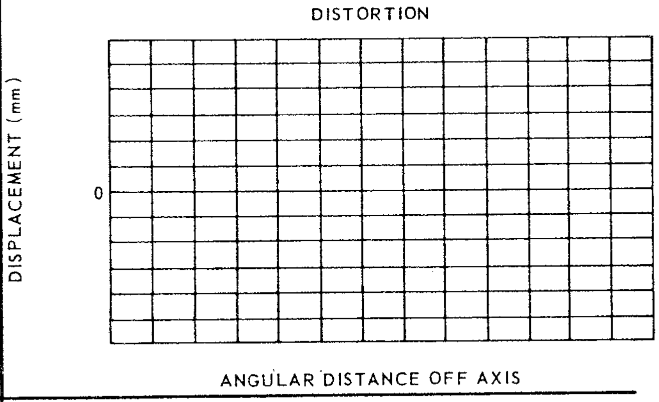
RADIAL																		
TANGENTIAL																		

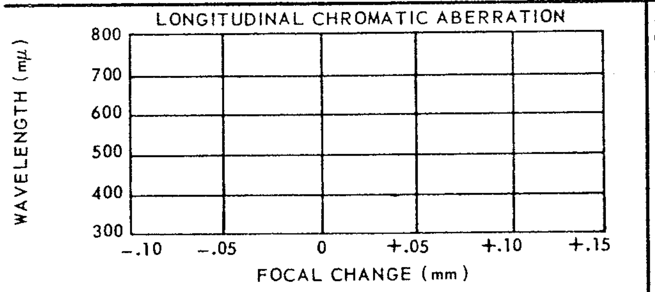
AWAR L/mm

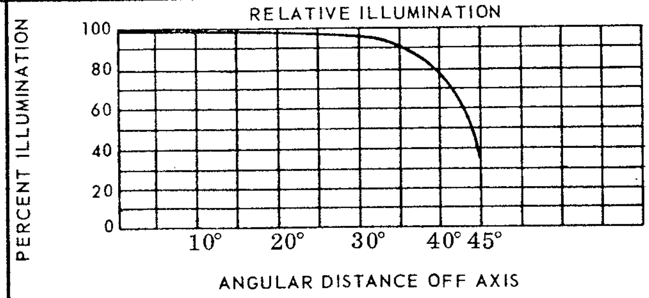
VISUAL TARGET CONTRAST FILTER

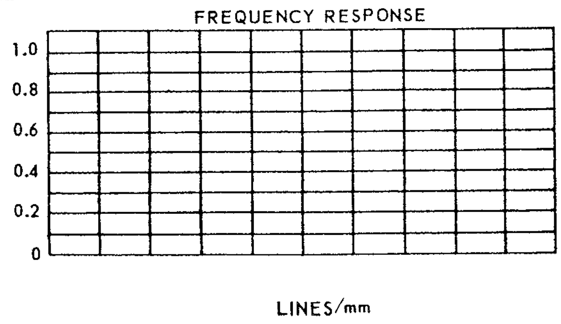
RADIAL																		
TANGENTIAL																		

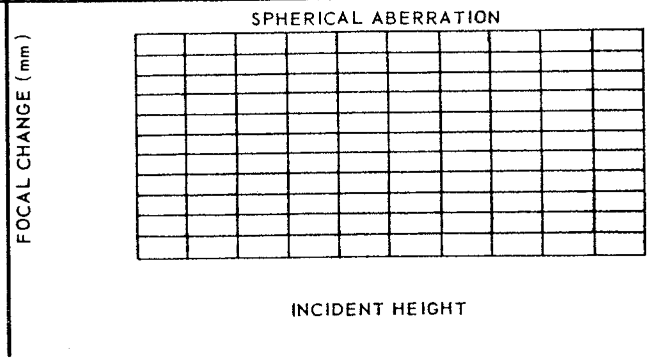












LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

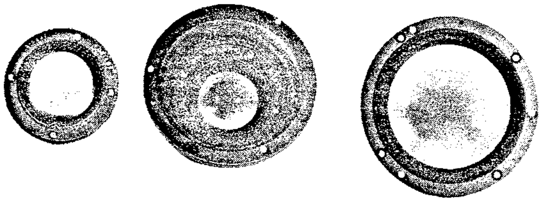
DATE
15 Sept. 1967

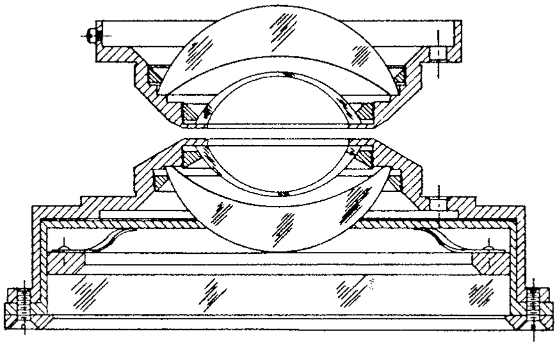
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Metrogon

FOCAL LENGTH 6 in.	RELATIVE APERTURE f/6.3	FORMAT 9 in. x 9 in.	MANUFACTURER Zenith Optical Div. Polan Industries, Inc.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (153.1 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 4.721 in.	COLOR CORRECTION Visible
FRONT VERTEX BACK FOCAL DISTANCE 5.2004 in.	DISTORTION *(Maximum)* 0.21 at 35°
FLANGE FOCAL DISTANCE 5.250 in.	LENS CELL DIAMETER *(Maximum)* 2.5 in.
SEMI-FIELD ANGLE 46°	OVERALL LENGTH 3.125 in.
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

Used on following aircraft cameras: K-17, K-22

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Zenith Optical Div. Polan Industries, Inc.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	10	20	30	35	40	45											

FILM Aerographic Super XX TARGET CONTRAST High FILTER W-12

RADIAL	36	38	36	32	32	27	20											
TANGENTIAL	41	37	30	23	19	24	14											

AWAR 28 L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

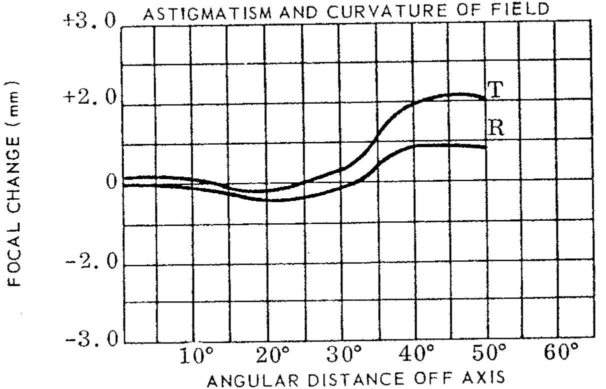
FILM ______ TARGET CONTRAST ______ FILTER ______

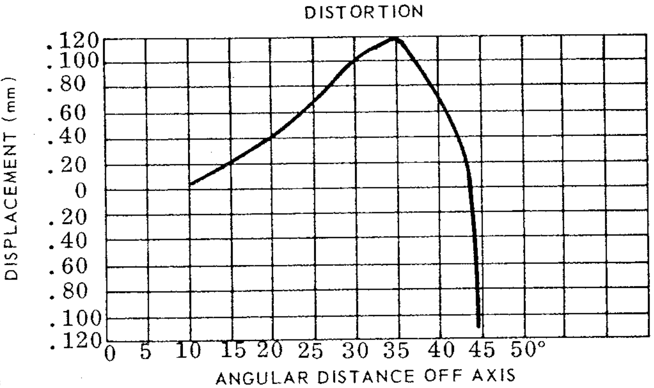
RADIAL																		
TANGENTIAL																		

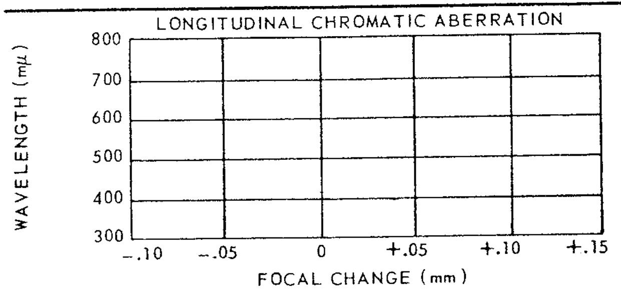
AWAR ______ L/mm

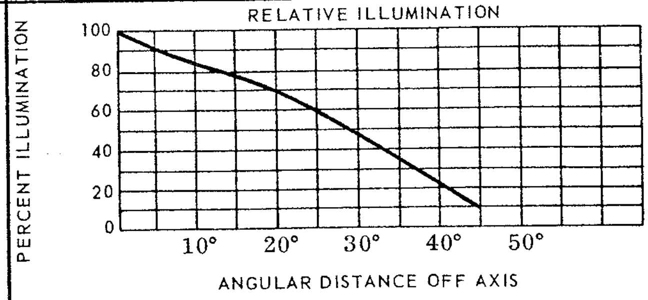
VISUAL ______ TARGET CONTRAST ______ FILTER ______

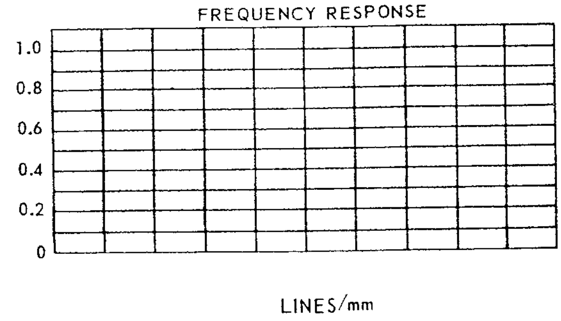
RADIAL																		
TANGENTIAL																		


ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION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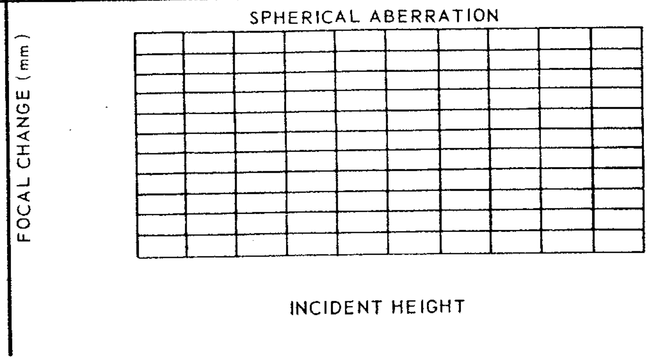

SPHERICAL ABERRATION

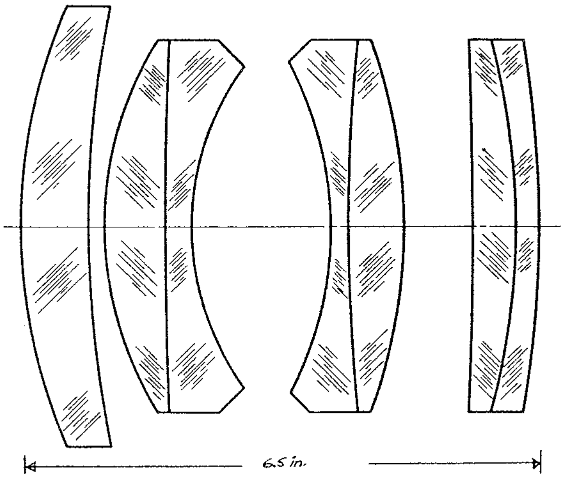
LENS DATA INFORMATION SHEET *(Reference MIL-STD-150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Ektar

FOCAL LENGTH 12 in.	RELATIVE APERTURE f/2.5	FORMAT 9 in. x 9 in.	MANUFACTURER Eastman Kodak

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 12 in. (304.8 mm)	TRANSMITTANCE 65%
BACK FOCAL DISTANCE	COLOR CORRECTION Visible
FRONT VERTEX BACK FOCAL DISTANCE 14.5 in. ± 0.25 in.	DISTORTION *(Maximum)* 1.5 mm
FLANGE FOCAL DISTANCE 9.59 in. ± 0.250 in.	LENS CELL DIAMETER *(Maximum)*
SEMI-FIELD ANGLE 27.5°	OVERALL LENGTH
RELATIVE APERTURE f/2.5	WEIGHT 12 lbs.

REMARKS:

Used on the following aircraft cameras: K-19B, K-37, K-47

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
12 in.	f/2.5	9 in. x 9 in.	Eastman Kodak

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25	27.5											

FILM Super XX TARGET CONTRAST High FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	25	22	21	14	12	12	10											

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

AVERAGE RADIAL AND TANGENTIAL																		

AWAR ______ L/mm

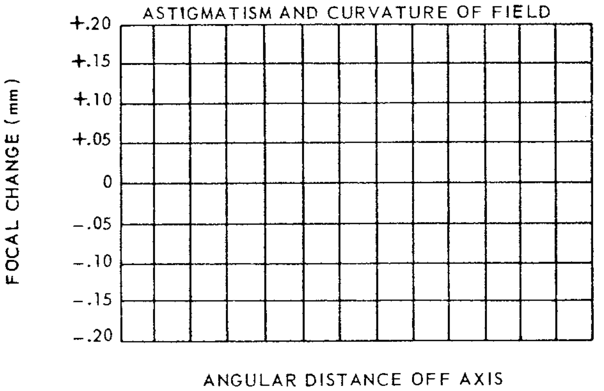
FILM ______ TARGET CONTRAST ______ FILTER ______

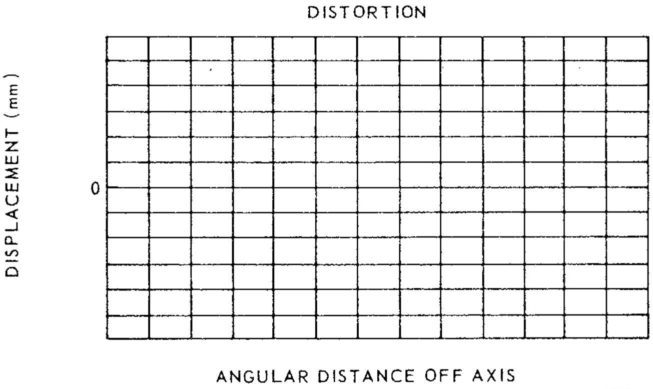
AVERAGE RADIAL AND TANGENTIAL																		

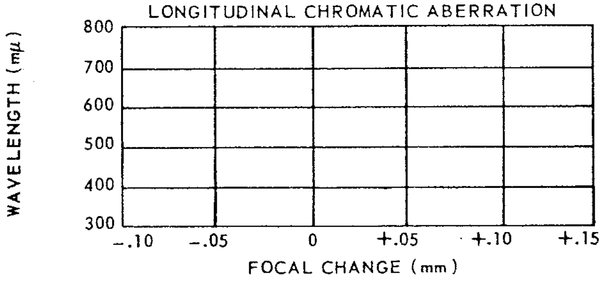
AWAR ______ L/mm

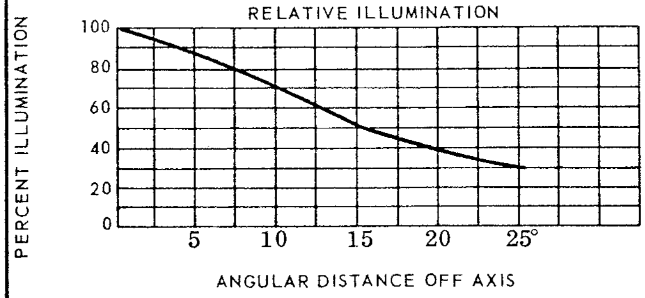
VISUAL ______ TARGET CONTRAST ______ FILTER ______

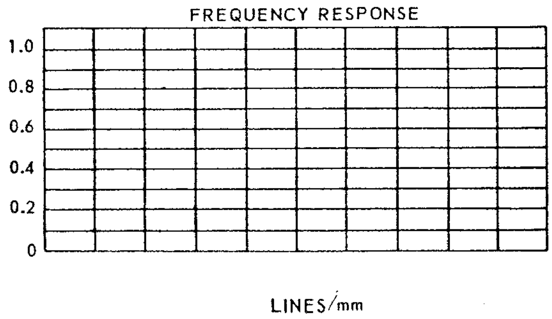
RADIAL																		
TANGENTIAL																		


ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION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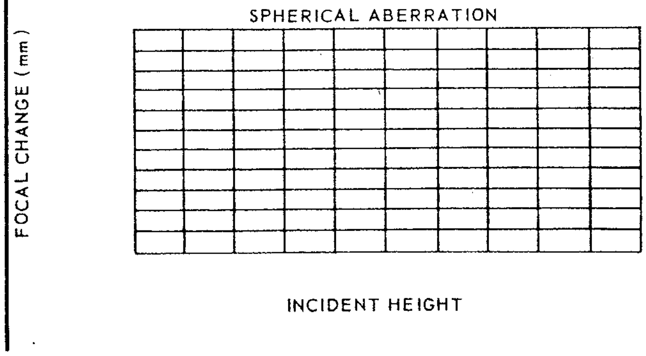

SPHERICAL ABERRATION

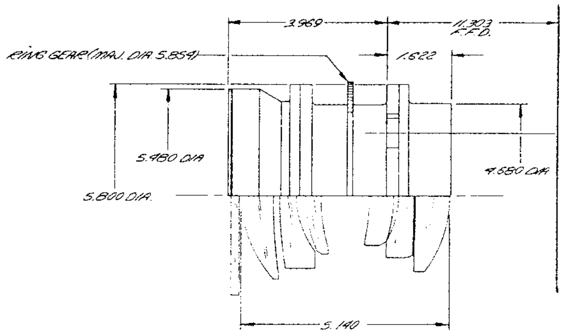
LENS DATA INFORMATION SHEET *(Reference MIL-STD-150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Paxar/Delta

FOCAL LENGTH 12 in.	RELATIVE APERTURE f/3.8	FORMAT 9 in. x 9 in.	MANUFACTURER Pacific Optical Corp.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 12 in. (304 mm)	TRANSMITTANCE 82%
BACK FOCAL DISTANCE 9.642 in.	COLOR CORRECTION 5461-6563 Å
FRONT VERTEX BACK FOCAL DISTANCE 14.782 in.	DISTORTION *(Maximum)* .85 mm
FLANGE FOCAL DISTANCE 11.303	LENS CELL DIAMETER *(Maximum)* 5.480 in.
SEMI-FIELD ANGLE 25°	OVERALL LENGTH 5.30 in.
RELATIVE APERTURE f/3.8	WEIGHT 6.75 lbs.

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
12 in.	f/3.8	9 in. x 9 in.	Pacific Optical Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25												

FILM Super XX TARGET CONTRAST High FILTER ____

RADIAL	45	45	35	27	30	29												
TANGENTIAL	45	40	39	33	31	26												

AWAR 34 L/mm

FILM ____ TARGET CONTRAST ____ FILTER ____

RADIAL																		
TANGENTIAL																		

AWAR ____ L/mm

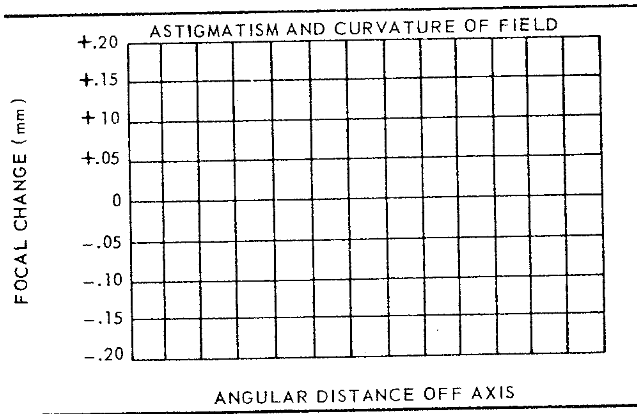
FILM ____ TARGET CONTRAST ____ FILTER ____

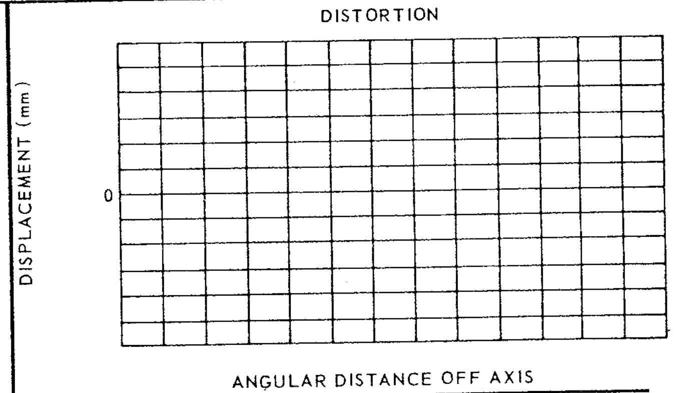
RADIAL																		
TANGENTIAL																		

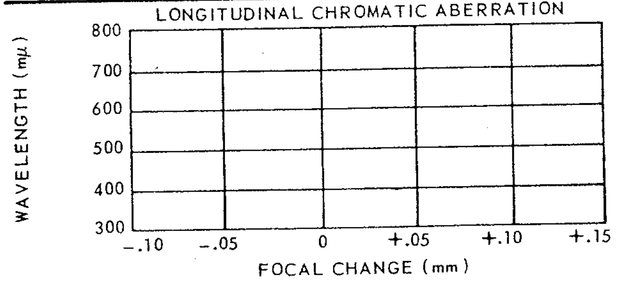
AWAR ____ L/mm

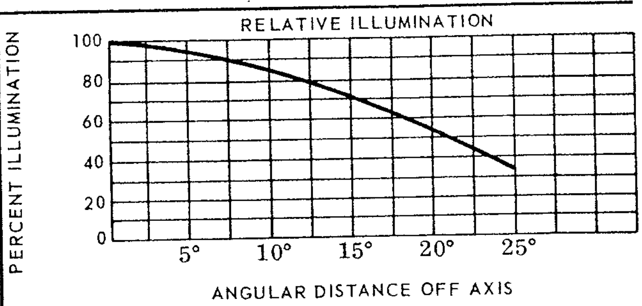
VISUAL ____ TARGET CONTRAST ____ FILTER ____

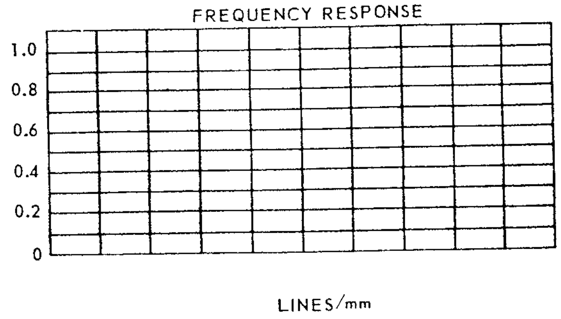
RADIAL																		
TANGENTIAL																		

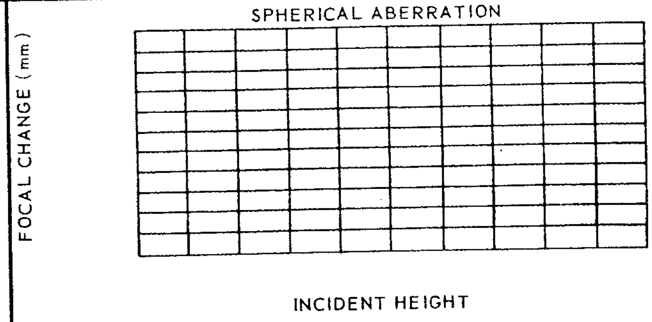

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

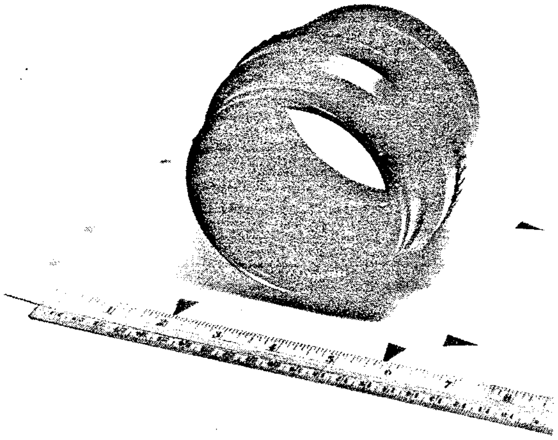
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

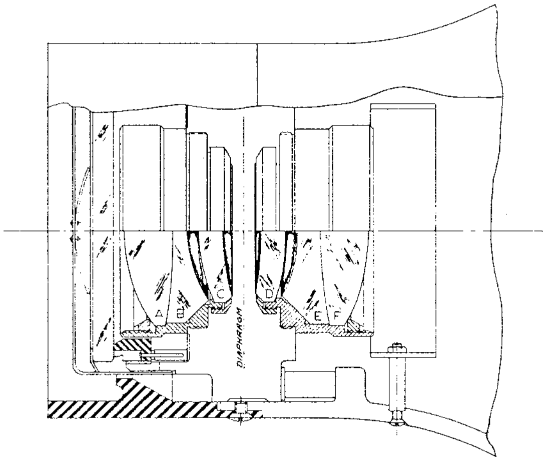
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME

FOCAL LENGTH 12 in.	RELATIVE APERTURE f/4.0	FORMAT 9 in. x 9 in.	MANUFACTURER Bausch & Lomb, Inc.

STOCK NO. Bausch & Lomb P/N 51-27-72	SPECIFICATION NO. MIL-L-6691	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 12 in. (306 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 10 in. (252.8 mm)	COLOR CORRECTION Visible
FRONT VERTEX BACK FOCAL DISTANCE 15.167 in.	DISTORTION *(Maximum)* 0.15 mm
FLANGE FOCAL DISTANCE 11.058 in.	LENS CELL DIAMETER *(Maximum)* 3.875 in.
SEMI-FIELD ANGLE 27.5°	OVERALL LENGTH
RELATIVE APERTURE f/4.0	WEIGHT

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
12 in.	f/4.0	9 in. x 9 in.	Bausch & Lomb, Inc.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5						

FILM VF Plates TARGET CONTRAST ______ FILTER ______

RADIAL	49	49	39	38	60	38	37	37	36	29	22	28						
TANGENTIAL	49	38	38	19	19	19	18	28	27	13	10	10						

AWAR ______ L/mm

FILM VF Plates TARGET CONTRAST ______ FILTER ______

RADIAL	31	31	39	31	38	30	30	18	23	18	9	22						
TANGENTIAL	39	31	31	24	24	30	18	22	22	7	10	15						

AWAR ______ L/mm

FILM VA N Plates TARGET CONTRAST ______ FILTER ______

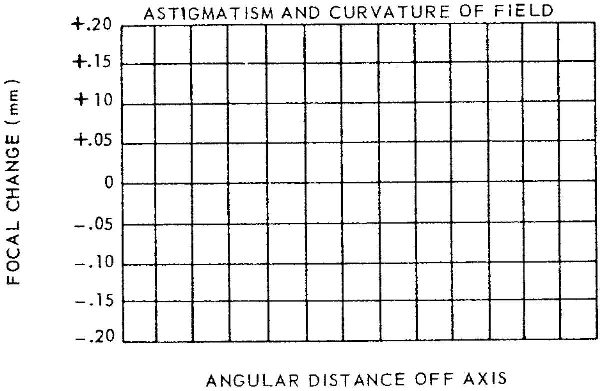
RADIAL	39	39	39	38	38	30	30	23	18	7	9	14						
TANGENTIAL	39	38	31	31	30	30	29	18	14	7	10	15						

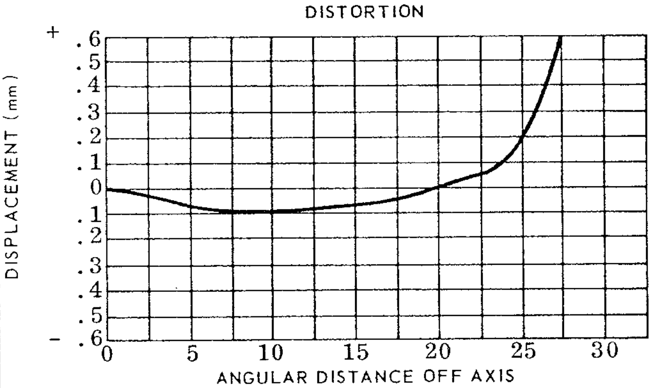
AWAR ______ L/mm

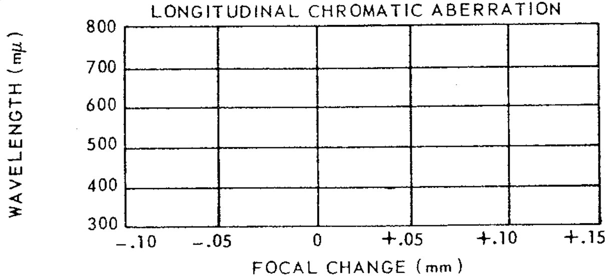
FILM 548 F Plates TARGET CONTRAST ______ FILTER ______

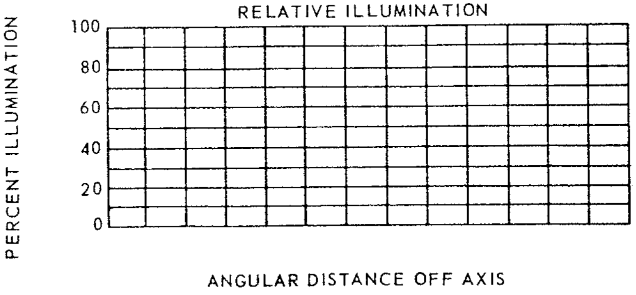
RADIAL	122	97	97	121	96	76	47	59	73	72	18	108						
TANGENTIAL	122	97	61	48	75	58	56	56	53	13	13	15						

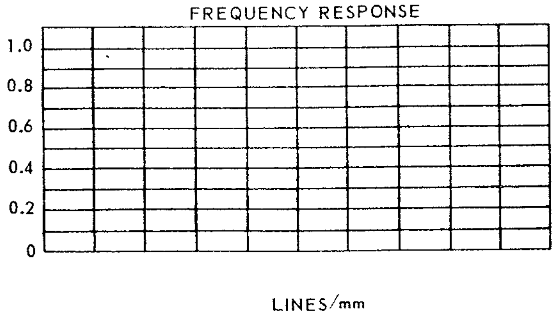
AWAR ______ L/mm

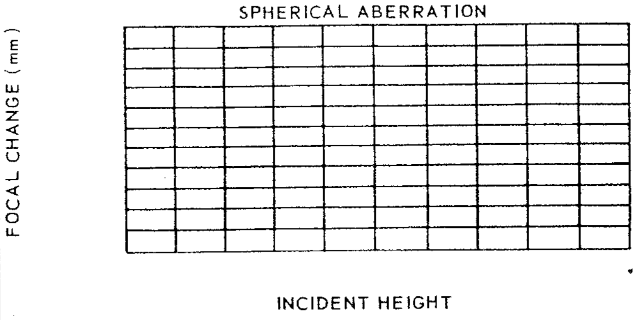

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

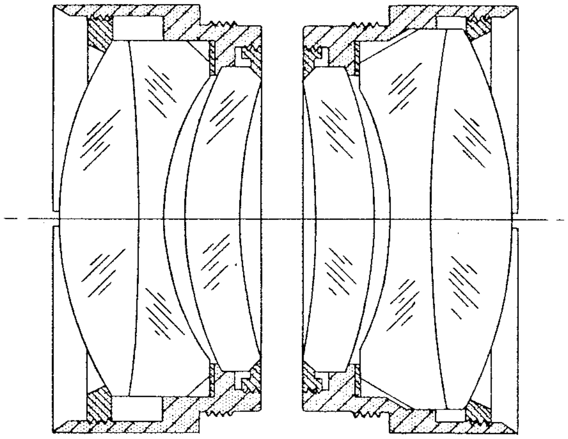
DATE
15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Plasmat Type

FOCAL LENGTH 12 in.	RELATIVE APERTURE f/4.0	FORMAT 9 in. x 9 in.	MANUFACTURER Perkin-Elmer Corp.

STOCK NO. Perkin-Elmer P/N 133-0003	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 12 in. (304.8 mm)	TRANSMITTANCE 81%
BACK FOCAL DISTANCE 9.839 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 11.136 in.	LENS CELL DIAMETER *(Maximum)* 3.87 in.
SEMI-FIELD ANGLE 28°	OVERALL LENGTH 4.20 in.
RELATIVE APERTURE f/4.0	WEIGHT 5.73 lbs

REMARKS:

Used on the following aircraft cameras: KA-2

FOCAL LENGTH 12 in.	RELATIVE APERTURE f/4.0	FORMAT 9 in. x 9 in.	MANUFACTURER Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25	27.5											

FILM Aero Super XX TARGET CONTRAST ______ FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	36	39	31	26	18	30	16											

AWAR 26 L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

AVERAGE RADIAL AND TANGENTIAL																		

AWAR ______ L/mm

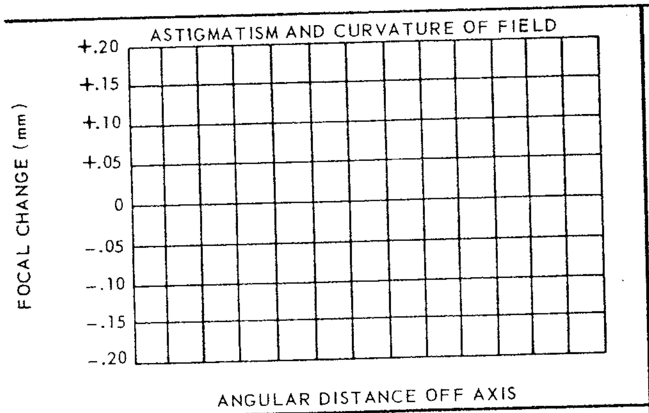
FILM ______ TARGET CONTRAST ______ FILTER ______

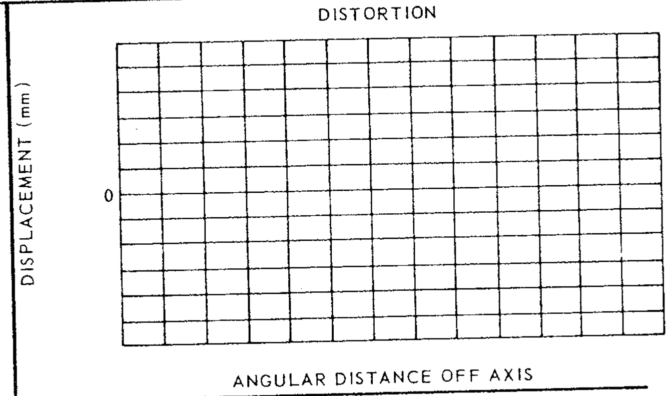
AVERAGE RADIAL AND TANGENTIAL																		

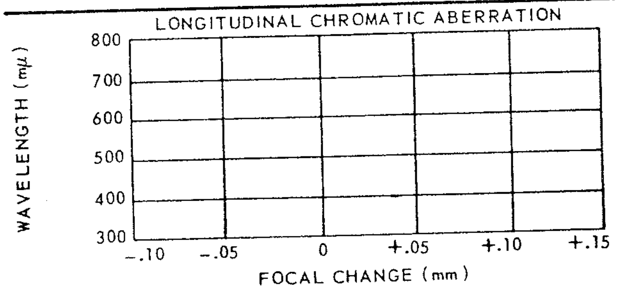
AWAR ______ L/mm

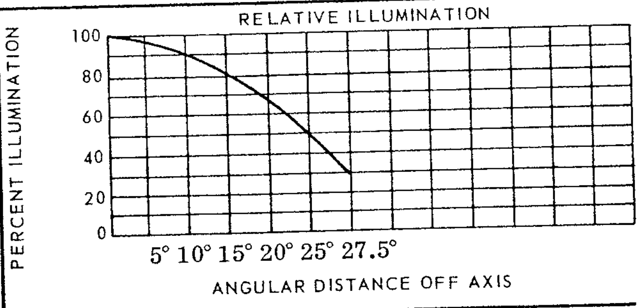
VISUAL ______ TARGET CONTRAST ______ FILTER ______

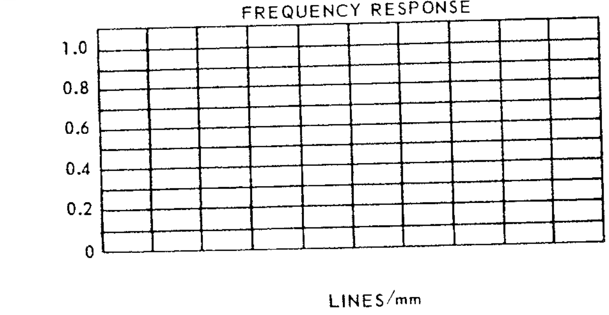
RADIAL																		
TANGENTIAL																		

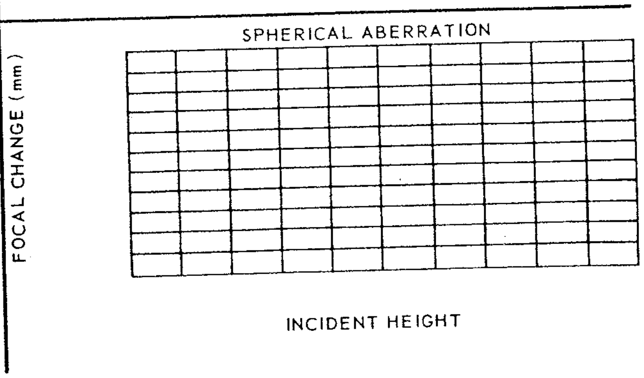












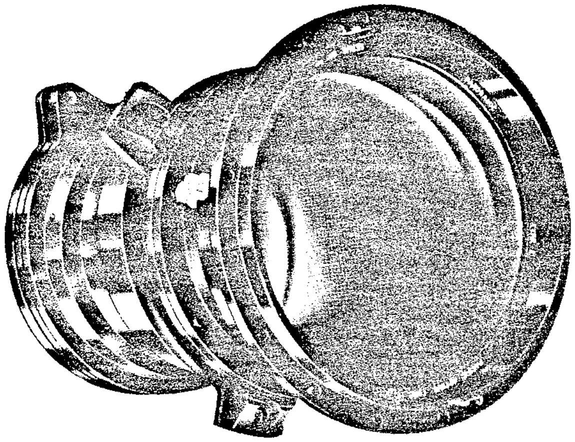
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

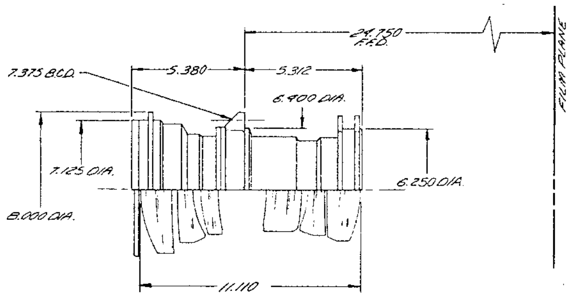
TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Paxoramic/Delta

FOCAL LENGTH 24 in.	RELATIVE APERTURE f/5.6	FORMAT 9 in. x 9 in.	MANUFACTURER Pacific Optical Corp.

STOCK NO. Pacific Optical P/N 32430	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 24 in. (609.6 mm)	TRANSMITTANCE 60%
BACK FOCAL DISTANCE 19.4 in.	COLOR CORRECTION 5461-6563 Å
FRONT VERTEX BACK FOCAL DISTANCE 29.77 in.	DISTORTION *(Maximum)* 1.5 mm at 10°
FLANGE FOCAL DISTANCE 24.750 in.	LENS CELL DIAMETER *(Maximum)* 8.0 in.
SEMI-FIELD ANGLE 15°	OVERALL LENGTH 10.5 in.
RELATIVE APERTURE f/5.6	WEIGHT

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
24 in.	f/5.6	9 in. x 9 in.	Pacific Optical Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	2.5	5°	7.5	10	12.5	15											

FILM SO-243 TARGET CONTRAST High FILTER

AWAR 131 L/mm

RADIAL	181		128		126		87											
TANGENTIAL	181		127		98		75											

FILM Super XX Aerographic TARGET CONTRAST High FILTER W-16

AWAR 44 L/mm

RADIAL	45	45	45	35	35	39	39											
TANGENTIAL	45	50	50	39	39	38	30											

FILM SO-1213 TARGET CONTRAST High FILTER W-16

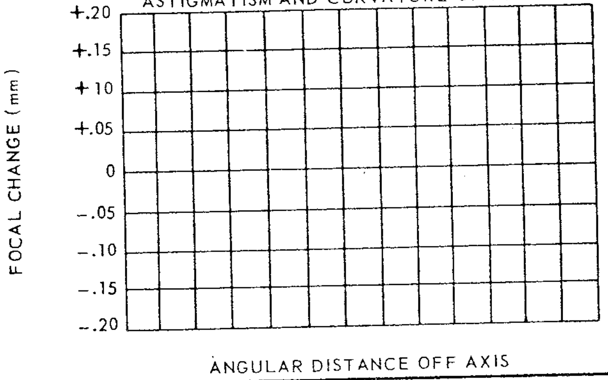
AWAR 95 L/mm

RADIAL	102	90	90	90	79	88	87											
TANGENTIAL	102	114	101	100	88	86	67											

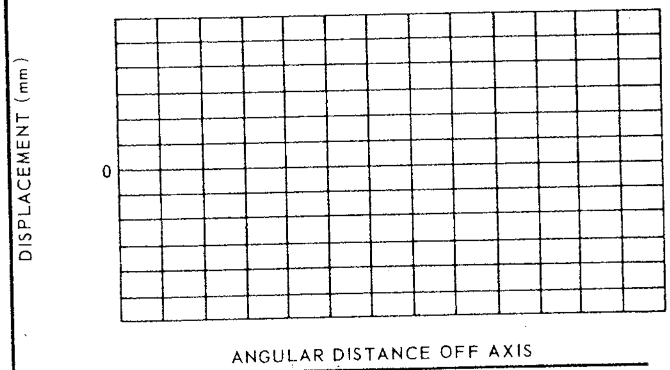
VISUAL TARGET CONTRAST FILTER

RADIAL																		
TANGENTIAL																		

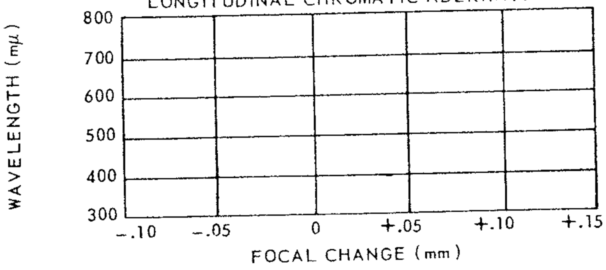
ASTIGMATISM AND CURVATURE OF FIELD



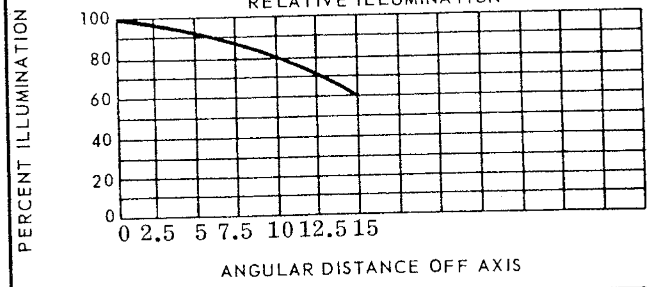
DISTORTION



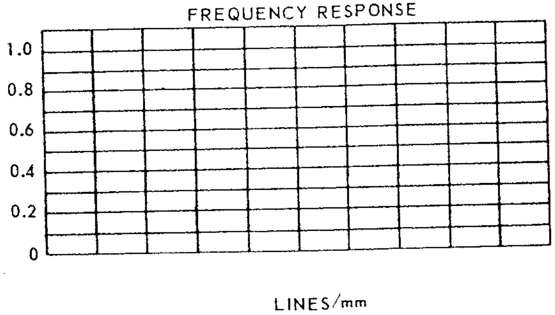
LONGITUDINAL CHROMATIC ABERRATION



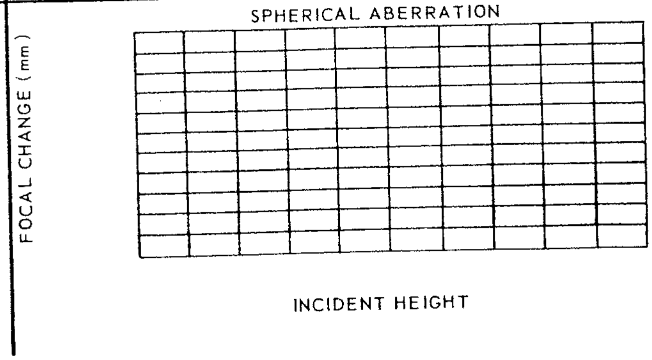
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



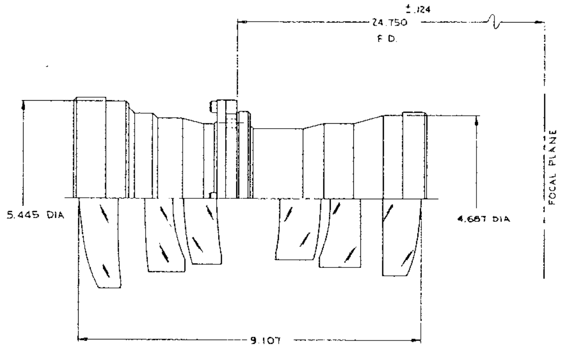
LENS DATA INFORMATION SHEET *(Reference MIL–STD–150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL–STD–150A) Type I Aerial Reconnaissance	NAME Paxar

FOCAL LENGTH 24 in.	RELATIVE APERTURE f/5.6	FORMAT 9 in. Diameter	MANUFACTURER Pacific Optical Corp.

STOCK NO. Pacific Optical P/N 34691	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 24 in. (609.6 mm)	TRANSMITTANCE 80%
BACK FOCAL DISTANCE 19.775 in.	COLOR CORRECTION 5461-6563 Å
FRONT VERTEX BACK FOCAL DISTANCE 28.880 in.	DISTORTION *(Maximum)* 0.1% at 10°
FLANGE FOCAL DISTANCE 24.750 in.	LENS CELL DIAMETER *(Maximum)* 5.445 in.
SEMI–FIELD ANGLE 10.5°	OVERALL LENGTH 9.5 in.
RELATIVE APERTURE f/5.6	WEIGHT 16 lbs.

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
24 in.	f/5.6	9 in. Diameter	Pacific Optical Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	25	5.0	7.5	10													

FILM SO 243 TARGET CONTRAST Low FILTER

AVERAGE RADIAL AND TANGENTIAL																		
	110	110	100	83	93													

AWAR ____ L/mm

FILM ____ TARGET CONTRAST ____ FILTER ____

AVERAGE RADIAL AND TANGENTIAL																		

AWAR ____ L/mm

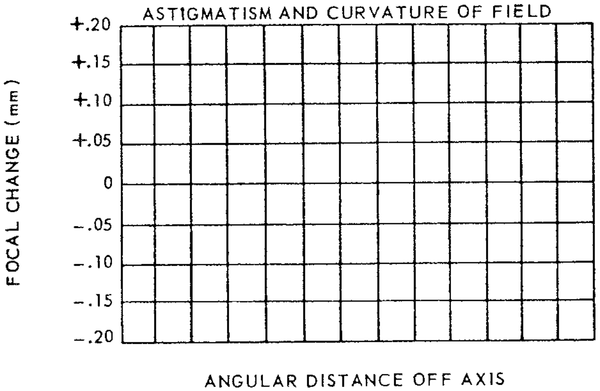
FILM ____ TARGET CONTRAST ____ FILTER ____

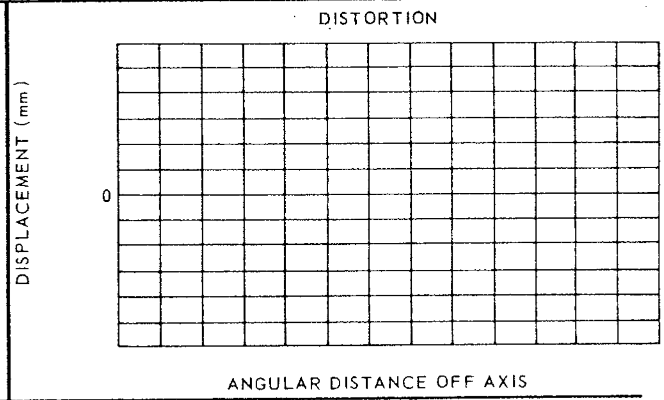
AVERAGE RADIAL AND TANGENTIAL																		

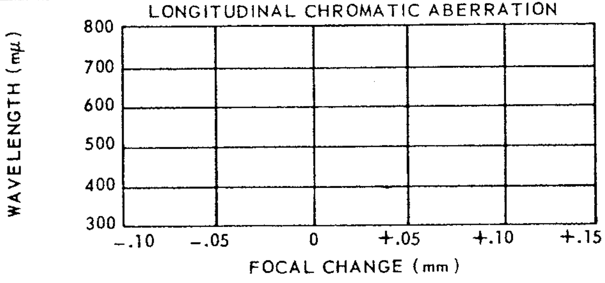
AWAR ____ L/mm

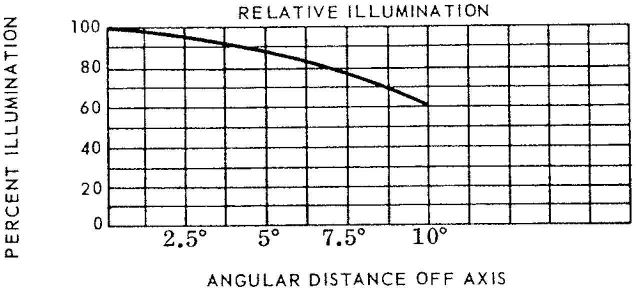
VISUAL ____ TARGET CONTRAST ____ FILTER ____

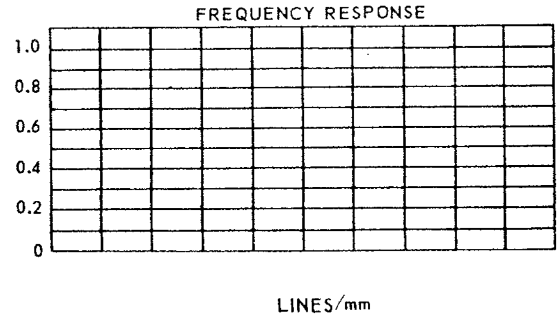
RADIAL																		
TANGENTIAL																		

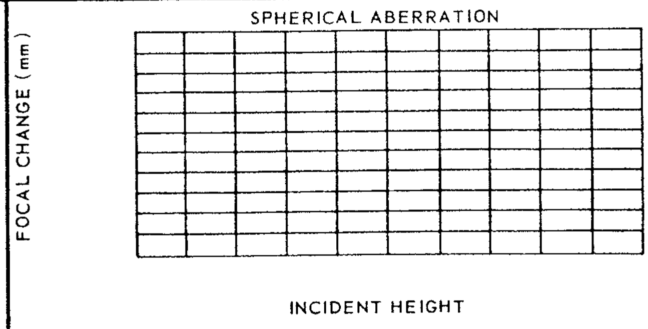












LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

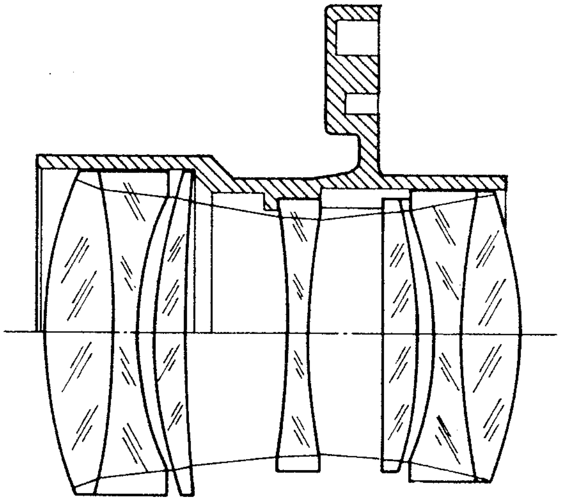
DATE
15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME RECON 850

FOCAL LENGTH 24 in.	RELATIVE APERTURE f/5.6	FORMAT 9 in. x 9 in.	MANUFACTURER Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS Current

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 24 in. (609.6 mm)	TRANSMITTANCE 85%
BACK FOCAL DISTANCE 20.88 in. (530.4 mm)	COLOR CORRECTION 4861-6563 Å (APOCHROMAT)
FRONT VERTEX BACK FOCAL DISTANCE 27.6 in. (701.0 mm)	DISTORTION *(Maximum)* -.053 mm or .038%
FLANGE FOCAL DISTANCE 22.9 in. (581.4 mm)	LENS CELL DIAMETER *(Maximum)* 9.45 in. (240 mm)
SEMI-FIELD ANGLE 15°	OVERALL LENGTH 6.85 in. (174 mm)
RELATIVE APERTURE f/5.6	WEIGHT 10 lbs.

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
24 in.	f/5.6	9 in. x 9 in.	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	9	13															

FILM SO-206 TARGET CONTRAST High FILTER W-12

RADIAL	120	150	100															
TANGENTIAL	120	150	110															

AWAR 130 L/mm

FILM SO-206 TARGET CONTRAST Low (2:1) FILTER W-12

RADIAL	80	90	70															
TANGENTIAL	80	90	75															

AWAR 85 L/mm

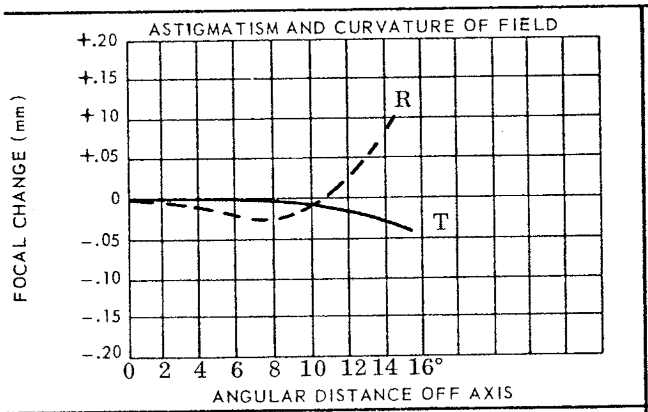
FILM ______ TARGET CONTRAST ______ FILTER ______

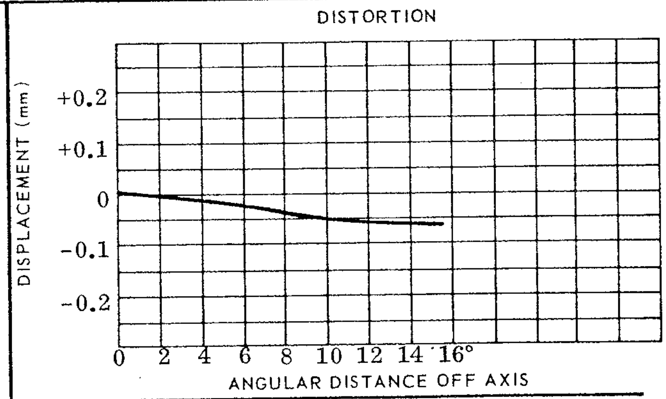
RADIAL																		
TANGENTIAL																		

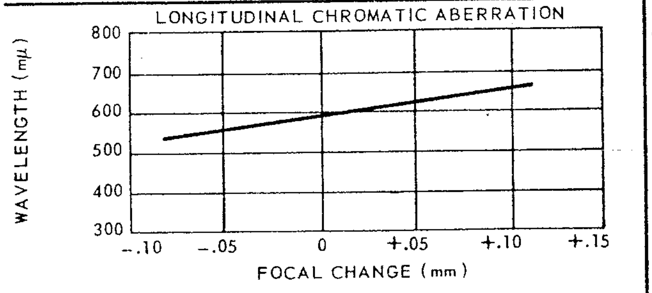
AWAR ______ L/mm

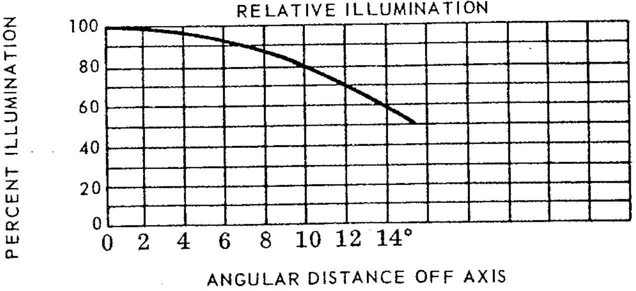
VISUAL ______ TARGET CONTRAST ______ FILTER ______

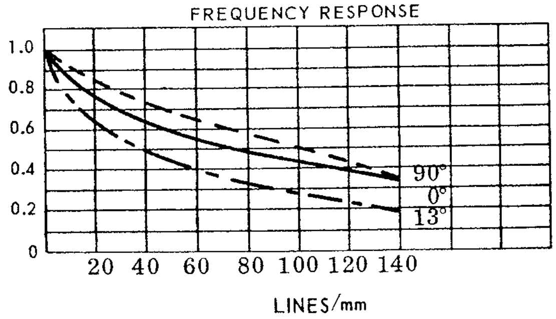
RADIAL																		
TANGENTIAL																		

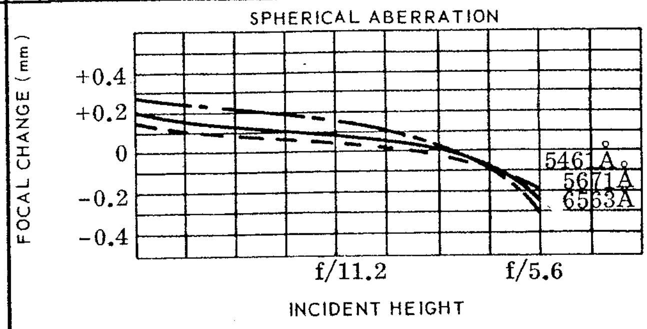

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

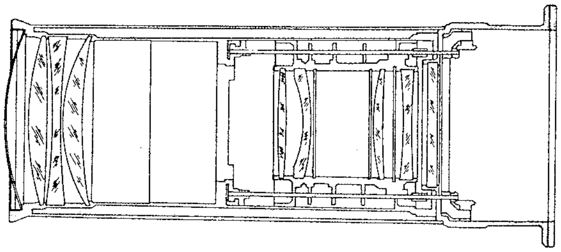
LENS DATA INFORMATION SHEET *(Reference MIL-STD-150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME Telephoto (Baker)

FOCAL LENGTH 40 in.	RELATIVE APERTURE f/5.0	FORMAT 9 in. x 9 in.	MANUFACTURER Perkin-Elmer Corp.

STOCK NO. Perkin-Elmer P/N 015-0201	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 40 in. (1016 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 11.6 in.	COLOR CORRECTION 5461-6563 Å (minus blue)
FRONT VERTEX BACK FOCAL DISTANCE 31.3 in.	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 6.0 in.	LENS CELL DIAMETER *(Maximum)* 11.53 in.
SEMI-FIELD ANGLE 9°	OVERALL LENGTH 26 in.
RELATIVE APERTURE f/5.0	WEIGHT

REMARKS:

Used on the following aircraft cameras: K-22A

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
40 in.	f/5.0	9 in. x 9 in.	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	1.5	3	4.5	6	7.5	9											

FILM Aero Super XX TARGET CONTRAST High FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	45	33	33	33	29	29	29											

AWAR 30 L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

AVERAGE RADIAL AND TANGENTIAL																		

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

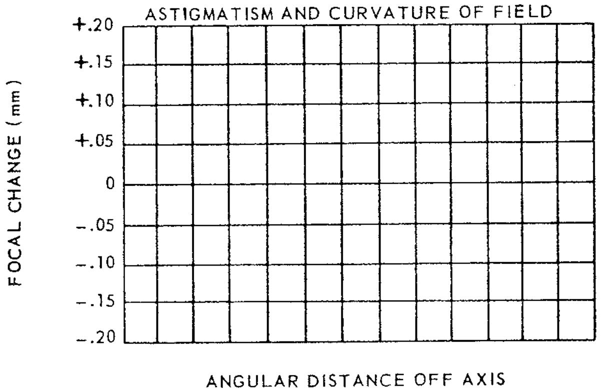
AVERAGE RADIAL AND TANGENTIAL																		

AWAR ______ L/mm

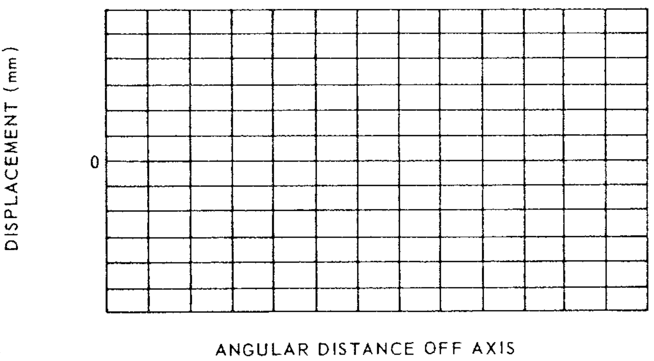
VISUAL ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

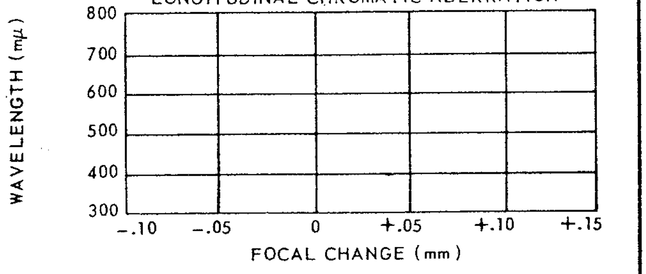
ASTIGMATISM AND CURVATURE OF FIELD



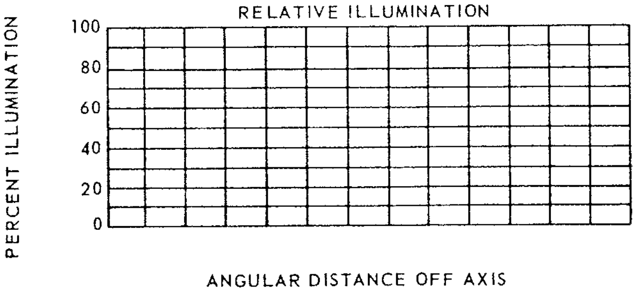
DISTORTION



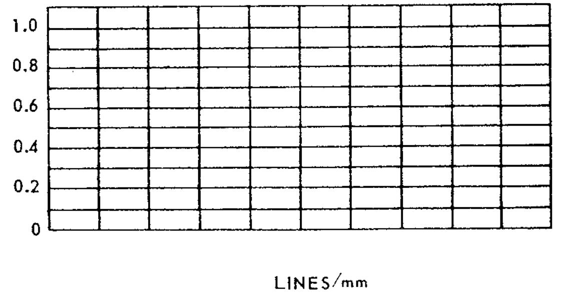
LONGITUDINAL CHROMATIC ABERRATION



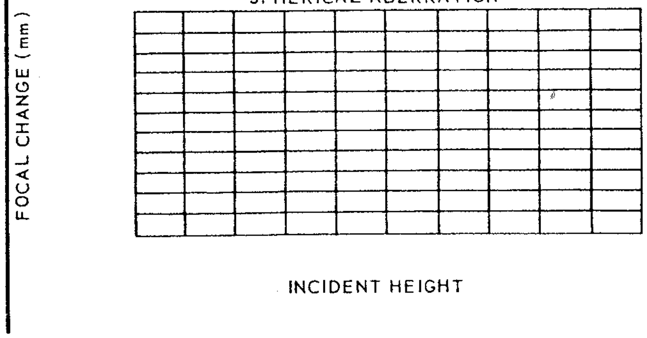
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



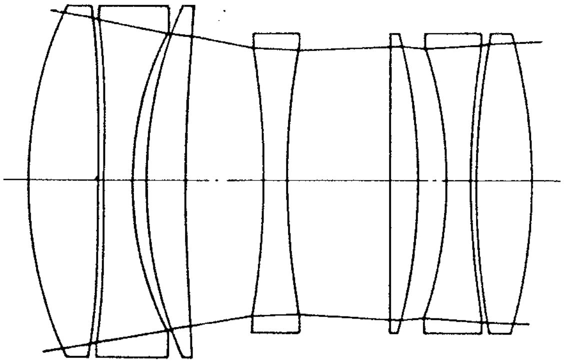
LENS DATA INFORMATION SHEET *(Reference MIL-STD-150A for definition of terms and methods of measurement)*	DATE 15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance	NAME RECON 830

FOCAL LENGTH 48 in.	RELATIVE APERTURE f/5.6	FORMAT 9 in. x 9 in.	MANUFACTURER Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS Current

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 48 in. (1,219.2 mm)	TRANSMITTANCE 72%
BACK FOCAL DISTANCE 39.6 in. (1,005.8 mm)	COLOR CORRECTION 4861-6563 Å (APOCHROMAT)
FRONT VERTEX BACK FOCAL DISTANCE 52.3 in. (1,328.9 mm)	DISTORTION *(Maximum)* 0.029 mm or 0.018%
FLANGE FOCAL DISTANCE 45.6 in. (1,158.2 mm)	LENS CELL DIAMETER *(Maximum)* 10.6 in. (270.0 mm)
SEMI-FIELD ANGLE 7.50°	OVERALL LENGTH 13 in. (330.0 mm)
RELATIVE APERTURE f/5.6	WEIGHT 50 lbs.

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
48 in.	f/5.6	9 in. x 9 in.	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	3.25	5.3	7.5														

FILM SO-206 TARGET CONTRAST High FILTER W-12

RADIAL	150	160	160	130														
TANGENTIAL	150	140	140	110														

AWAR 140 L/mm

FILM SO-206 TARGET CONTRAST Low (2:1) FILTER W-12

RADIAL	80	85	75	50														
TANGENTIAL	80	75	75	50														

AWAR 75 L/mm

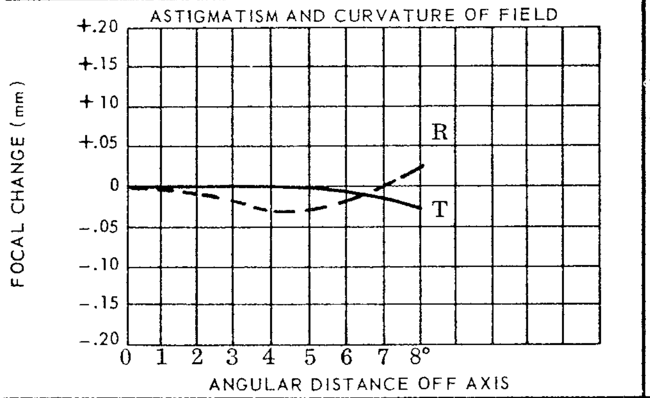
FILM ______ TARGET CONTRAST ______ FILTER ______

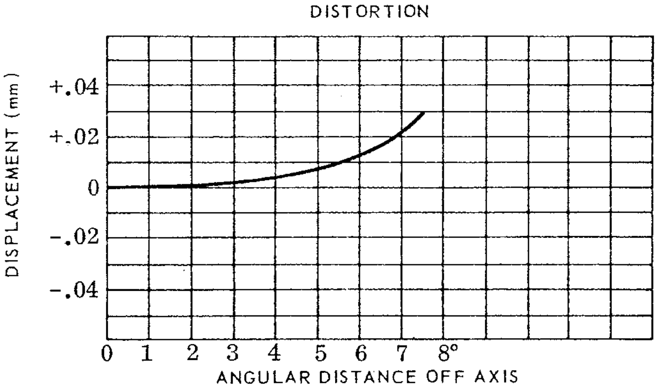
RADIAL																		
TANGENTIAL																		

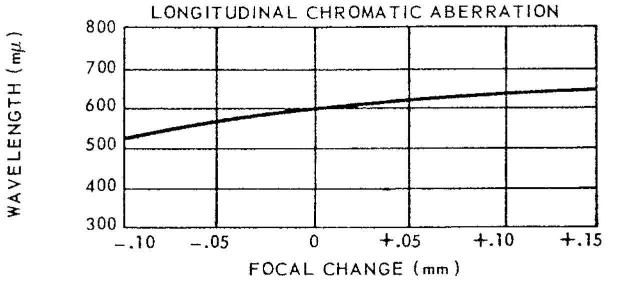
AWAR ______ L/mm

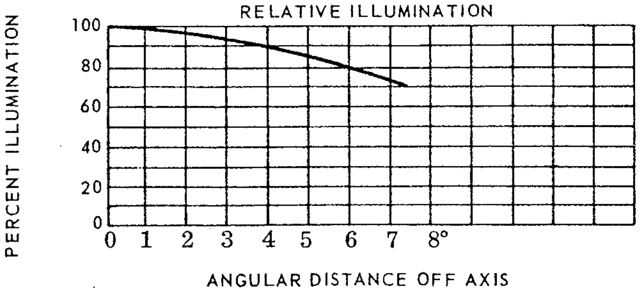
VISUAL ______ TARGET CONTRAST ______ FILTER ______

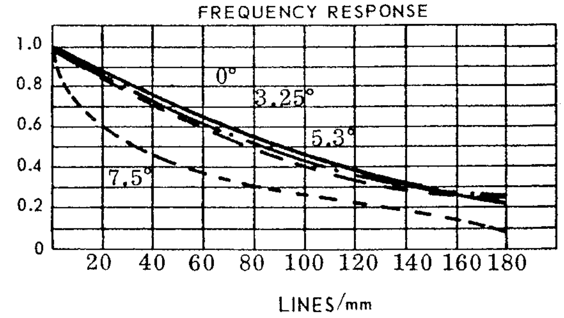
RADIAL																		
TANGENTIAL																		

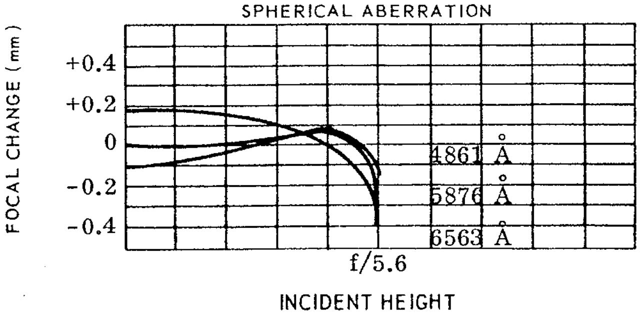

ASTIGMATISM AND CURVATURE OF FIELD


DISTORTION


LONGITUDINAL CHROMATIC ABERRATION


RELATIVE ILLUMINATION


FREQUENCY RESPONSE


SPHERICAL ABERRATION

LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

DATE
15 Sept. 1967

TYPE (MIL-STD-150A) Type I Aerial Reconnaissance		NAME Paxar/Delta	
FOCAL LENGTH 48 in.	RELATIVE APERTURE f/8.0	FORMAT 9 in. x 9 in.	MANUFACTURER Pacific Optical Corp.
STOCK NO.	SPECIFICATION NO.	STATUS Development	

GENERAL DESCRIPTION

CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 48 in. (1219.2 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 40.98 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 52.70 in.	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE	LENS CELL DIAMETER *(Maximum)*
SEMI-FIELD ANGLE 15°	OVERALL LENGTH
RELATIVE APERTURE f/8.0	WEIGHT

REMARKS:

FOCAL LENGTH 48 in.	RELATIVE APERTURE f/8.0	FORMAT 9 in. x 9 in.	MANUFACTURER Pacific Optical Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15														

FILM SO 213 TARGET CONTRAST High FILTER W-12

RADIAL	110	110	100	90														
TANGENTIAL	110	100	90	90														

AWAR 100 L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

FILM ______ TARGET CONTRAST ______ FILTER ______

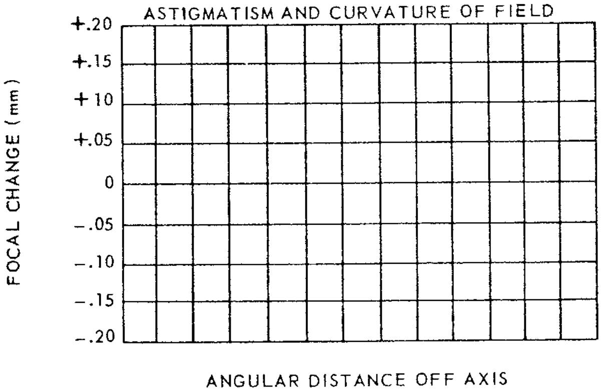
RADIAL																		
TANGENTIAL																		

AWAR ______ L/mm

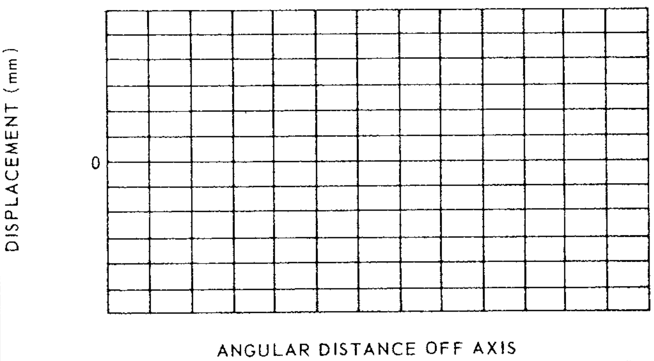
VISUAL ______ TARGET CONTRAST ______ FILTER ______

RADIAL																		
TANGENTIAL																		

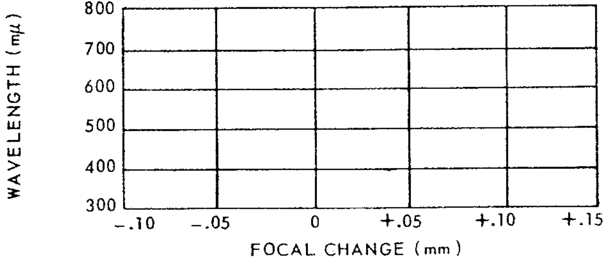
ASTIGMATISM AND CURVATURE OF FIELD



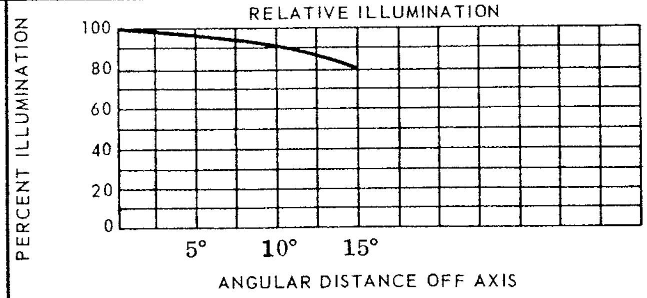
DISTORTION



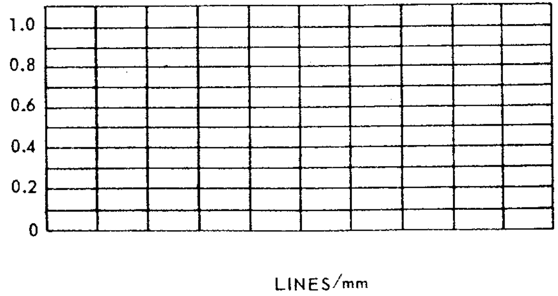
LONGITUDINAL CHROMATIC ABERRATION



RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION